

THE RAILWAY GAZETTE

A Journal of Management, Engineering and Operation
INCORPORATING

Railway Engineer • TRANSPORT • The Railway News

The Railway Times • Herapath's Railway Journal • RAILWAY RECORD.

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DIESEL RAILWAY TRACTION SUPPLEMENT

The September issue of the THE RAILWAY GAZETTE Supplement, illustrating and describing developments in Diesel Railway Traction, will be ready on September 1, price 1s.

GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and facilities for such dispatch.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:

Mondays to Fridays 9.30 a.m. till 5.30 p.m.

The office is closed on Saturdays

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

The Technical Press in Export Trade

THE principal medium through which the good will and energy of manufacturers, the support of the Board of Trade, and the skill and initiative of the advertising community in preparing for export trade development after the war, to some extent will be rendered nugatory if the principal medium through which these factors can be exploited is handicapped. This medium as Mr. C. E. Wallis, Managing Director of the Associated Iliffe Press Limited, points out in a recent letter in *The Times* is a technical Press capable of standing comparison with that of a competitive country, both as to contents and presentation. Mr. Wallis's letter is reproduced on page 198. He points out that publishers of technical journals at the present time are greatly handicapped in respect of the quantity and quality of paper available, the adequacy of printing staff to enable full use to be made of colour, and the curtailment of expert editorial staff to do full justice to the giant strides made by British industry during the war. As he points out "austerity journals, like utility dresses, are unsuitable for export."

The Need for Early Action

Despite the restrictions under which the technical Press is functioning at present, the high level of technical excellence achieved by the British specialised Press in the past, has been maintained, and there is no doubt that as soon as circumstances permit these journals will challenge comparison in format and appearance with those produced anywhere in the world. In other countries, the potentialities of the weapon offered by the technical and trade Press have been more fully realised than in Great Britain. Mr. Wallis suggests that the Government, the manufacturers, and the advertising community should admit technical Press publishers to their deliberations, and that the necessary facilities for first-class production should be granted now, and not postponed until the battle is on. If this were done, the technical Press would be fully competent to carry the fight for British export trade into every country of the world.

Sir Charles Hambro on South Wales Post-War Trade

Sir Charles Hambro, Chairman of the Great Western Railway Company, and the British Member of the Combined Raw Materials Board at Washington, during a visit to this country recently addressed representative South Wales industrialists at Swansea. He pointed to the need for ensuring that our internal organisations socially, economically and mechanically, were made fit to compete with the world in international trade after the war. He was optimistic as to our ability to meet any competition; although co-operation, friendship and the desire to join us in an ensuring future peace, could be expected from our American friends, we should, no doubt, also experience from them acute competition in many phases of international trade. Sir Charles Hambro said that if an opportunity of providing new and up-to-date hotel accommodation in Swansea should arise in the rebuilding of the town, the Great Western Railway would be willing to extend its co-operation. Before heavy expenditure on transport and hotels could be considered, it would have to be assured that its efforts were welcomed. He felt that when the time came the close association between the borough and the Great Western Railway would be as manifest as ever. The railway company would do its share to ensure that Swansea might continue to play its vitally important part in the export and import trade of Great Britain.

Wartime Efficiency of Railways

Lord Castlereagh in a letter published in *The Daily Telegraph* has pointed out that one of the reasons why the railways are so efficient during the war is because, during peacetime, out of their own funds they made adequate provision for emergencies. Therefore, when the Government took over the railways in 1939 they were as efficient a network as could be found anywhere. With the minimum facilities for maintenance and replacement, the railways have withstood the strain of nearly five years of war, and in no respect have been found wanting. Between 1928 and 1938 the railways were subject to severe and unfair competition from road transport. They could have met this by drastic economies in maintenance or by the closing down of lines and so forth. Instead they carried out a vast policy of reconstruction, and during this period expended no less than £450,000,000. If a less ambitious programme had been adopted, the junior stockholders would have received more, but the railways would have been less efficient. Lord Castlereagh points out that it is thus no exaggeration to say that the efficiency so vital today has been effected largely at the expense of this particular class of stockholder. He does not agree with a recent

suggestion in the House of Commons that, as the junior stockholders were not receiving their full share in peacetime, there was no reason why they should in wartime.

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Argentine Railway Discussions Resumed

Sir Montague Eddy, Chairman of the Buenos Ayres Great Southern Railway Company, and leader of the mission of directors of the British-owned railway companies operating in Argentina which recently visited that country, has returned to Buenos Aires to resume discussions with the Argentine Government. Last year Mr. H. C. Drayton and Lord Forbes, also directors of Argentine railway companies, accompanied Sir Montague Eddy to Buenos Aires, and while they were there they were appointed to a Railway Commission set up by the Argentine Government, and which reviewed the railway position in some detail. The meetings were adjourned pending consultations in London between the directors who visited Argentina and their colleagues on the London boards. The boards are engaged at present in considering a report drawn up by Sir Montague Eddy and his colleagues which makes recommendations tending to more efficient working of the systems. So far, no details of this report have been made public. The unfavourable position of the British-owned railways and the treatment accorded them by the Argentine authorities have been causing concern for some time. Railway charges and rates of exchange are two of the more important subjects awaiting settlement.

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C.P.R. Dividend Policy

The recent decision of the directors of the Canadian Pacific Railway Company to defer any action in respect of a dividend on the ordinary stock has caused disappointment, bearing in mind that the payment of 2 per cent. for 1943, amounting to \$6,700,000, was covered nearly five times over by net earnings. When the chairman announced at the annual meeting last May that the possibility of a dividend would be considered by the directors in August it was believed in some quarters that the adverse position resulting from the continued increase in costs had been partly discounted. Meanwhile net earnings have improved, although at a diminished rate, and for the first half of the year there was a net increase of \$1,477,000. Insufficient attention, however, seems to have been directed to the chairman's remark that by August it would be possible to estimate the probable size of the prairie grain crop, "and certain other issues having an influence on net earnings for the year would have been determined." It may be assumed that the chairman then had the wages question in mind. The official statement now made shows that the recent award of wages by the National Labour Board foreshadows an onerous expense and liability for the company both for the future and retroactively, and that the final issue of the wages liability is not yet settled.

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Railway Staff Canteens

At the outbreak of war there were 189 canteens at stations and depots of the main-line railways and the London Passenger Transport Board; today there are 528. In addition, 87 canteens are under construction and plans have been prepared for the building of a further 117. Existing canteens have seating accommodation for 53,000 persons at a sitting, but a considerably larger number of persons is served at each mealtime, when in many cases there are four, or even five, sittings. It is estimated that each month some 8,000,000 meals are served in railway canteens. The majority of these canteens is run on a non-profit basis by the staff through canteen committees, but at a small number of places catering is undertaken by outside contractors; the railway companies supply accommodation, light, and equipment. All the newer and the majority of the older canteens are equipped with the most modern apparatus, including gas or electric cooking ovens, boiling tables, steaming ovens, hot closets, refrigerators and automatic hot-water boilers for tea making. In a number of the larger canteens special store rooms and accommodation for preparing vegetables are provided, together with gas vegetable boilers and potato peelers.

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Rail Manufacture in Brazil

On more than one occasion we have directed attention to the milestone in the war-accelerated industrial development of Brazil which has been reached with the establishment of steel rail manufacturing plant there. According to recent reports, 45-lb. rails are now being produced, for use on the Brazilian railways, at the plant of the Companhia Siderurgica Belgo-Mineira at Monlevade, near the River Piracicaba, in the State of Minas Geraes. It appears, however, that for rails in excess of 60-lb. Brazil will rely on the new Volta Redonda steel plant now under construc-

tion. Production of light steel rails at Monlevade was encouraged by President Getulio Vargas and by the Minister of Transport & Public Works as a means of obtaining rails for the 310-mile line being built between Montes Claros and Ourives to connect the railways of the southern and north-eastern sections of Brazil. Earlier reference to this was made in our issues of February 4 (page 126) and April 7 (page 354). No further mention has been made of the suggestion that, when operations begin at the National Steel Plant at Volta Redonda, the production of rails at Monlevade will be discontinued, and the intended division of light and heavy rails between the two plants would seem to discount such a proposal.

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The Growing Brazilian Steel Industry

The rolling of steel rails in Brazil, to which reference is made in the previous note, is but one indication of the increasing interest which Brazil is taking in domestic steel manufacture. The Companhia Siderurgica Belgo-Mineira, founded in 1921 with a capital of approximately \$9,000,000, began operations at Sabara and later at Monlevade. The first blast furnace at Monlevade went into operation in 1937. The importance of the Belgo-Mineira can be seen from the fact that in 1939 its steel-ingot capacity of 85,000 tons was 60 per cent. of the total ingot capacity of 141,000 tons of the seven companies operating in Brazil. When the Belgo-Mineira Monlevade plant began work, steel-ingot production in Brazil rose to 114,000 tons in 1939, 141,000 tons in 1940, and 155,000 tons in 1941. The Volta Redonda plant is expected to have initial ingot output of 275,000 tons yearly. It may be recalled that the rail rolling mill at Monlevade was inaugurated last November with appropriate ceremony, and was responsible for the first steel rail ever produced in South America. The entire plant and equipment was furnished by United States manufacturers. It is located in a position readily accessible to the greatest deposit of high-grade iron ore in the world.

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Left-hand Running in the U.S.A.

So far as we can ascertain, there is now only one American main-line railway which has left-hand running as standard throughout its system, namely, the Chicago & North Western Railway. Here and there, however, there are sections of line on other railways worked in this way for convenience, often on account of re-alignments having made it easier to add a second track on a certain side and work the two left-handed. On many sections of railway it is regular practice to run trains on the wrong line, to overtake slower ones, on the dispatcher's orders, and a picture of a train so running may lead to the wrong belief that left-hand working is the rule on that railway. A good deal of double track in the U.S.A. is completely signalled for working in this way. The Chicago, Burlington & Quincy Railroad was one of the first to make considerable use of this wrong-road running. We understand that the practice has been extended considerably in war conditions, to facilitate the handling of unusually heavy traffics, which, moreover, have often changed their direction of maximum volume (or lost their characteristic of balanced working) in present abnormal circumstances.

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L.N.E.R. Expeditious Track Renewal

Without resorting to single-line working and with no delay to trains the L.N.E.R. at Guide Bridge East has renewed in 28½ hr. a 150-yd. network of 4-track main line, including a scissor crossing formed by a double cross-over between the fast and slow lines and an ordinary cross-over on the slow line. Eighty men worked 12-hr. shifts in two gangs. Due to alterations in layout it was necessary to undertake all the work at once, but of the four lines affected only two were out of use at any one time. For two weeks before the breaking of the road, units of track had been pre-assembled on an adjoining site. As far as possible signal fittings were attached to the units as they were built up. Using the 45-ton Gorton steam breakdown crane and a smaller 10-tonner, these sections were lifted into position without incident. Part of the permanent way was under a low bridge, which restricted the use of the cranes, and some track units had to be slid into position. The largest pre-assembled section weighed approximately eight tons.

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Gauge Standardisation in Australia

The question of standardising the track gauge of the various State railways of Australia has been a matter for discussion for so many years that it is apt to be regarded as something like the Channel Tunnel, but a recent indication that it is still a live topic was given by the official announcement of the Victorian

Government Railways that Mr. S. P. Jones, who retired recently from the post of Signal & Telegraph Engineer, is now actively engaged in bringing up to date the estimates of cost in connection with the conversion of the Victorian Railways system to standard gauge. It may be recalled that the British standard of 4 ft. 8½ in. applies throughout New South Wales and to the Trans-Australian Railway of the Commonwealth. In between the two is the block of broad-gauge (5 ft. 3 in.) lines in Victoria and the adjacent portion of South Australia, which were clearly shown in the map we published in our issue of August 13, 1943 (page 157). It can scarcely be questioned that, if standardisation of track gauge is achieved in Australia it will be on the 4 ft. 8½ in., and the Victorian Government Railways will provide the biggest task in view of the complexity of the system and the intensive traffic over many sections. As all the principal railways in Australia are owned by either the State or the Commonwealth Governments, the ultimate decision will doubtless be taken on strategic and political grounds as much as on commercial considerations, and recent indications would appear to suggest that standardisation is not so unlikely as it appeared 20 years ago.

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Reducing Vermin in Railway Warehouses

Some time ago, the organisers of the national campaign against rats congratulated the L.N.E.R. on the success of its work in Scotland, and a letter of commendation from a Government Department was received, in which the results were described as excellent. An essential part of this work is the use of cats to keep down the numbers of vermin that habitually prey upon such vital stores as grain and feeding stuffs which are stored in large quantities in warehouses at various goods stations. There have been railway cats in Scotland for a great many years, but their status has varied from place to place; in some they have been on the official pay roll for their maintenance cost, and in others their presence has been acknowledged officially, but their keep has been left to the sympathy of the staff. In 1940, the war emergency resulted in the appointment of an L.N.E.R. Cat Inspector for Scotland, and some account of his work is given on page 197. All cats are now on the pay roll, and the Ministry of Food has co-operated by making available supplies of dried milk. Tactical methods have included the provision of holes in warehouses to help the cats to pass rapidly from point to point.

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British Railway Practice in Italy

Readers serving with the British Forces in Italy have mentioned in their letters to us that there are various points about Italian railway working which are reminiscent of British practice, such as the left-hand running and the signalling. Left-hand running was adopted in Italy, as in some other Continental countries, under the general influence of the Stephenson tradition from England, and Italian signalling was greatly influenced by British ideas. The first complete interlocking installation was supplied by Saxby & Farmer for Genoa in 1874. The inventor of the widely-used hydraulic power signalling, Bianchi, General Manager of the State Railways from 1905 to 1915, had been trained in England; his collaborator, Servetaz, was an agent for British engineers. Under Saxby's influence the Hodgson lock-and-block was installed, and the later-used Cardani block was derived from it. The mounting of the stop and distant arms one behind the other was copied from the arrangement used in England for a "slotted" signal before slotting itself was thought of, and adopted on account of the many tunnels restricting the view of signals and necessitating their being brought as low down as possible.

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A Wartime Locomotive Production Feat

Many industrial concerns during the war have had orders of an important strategic nature superimposed on an already full programme by the Government Departments, in connection with the ever-changing war position. In this issue we are enabled to give an account, perforce brief, of an achievement by the British locomotive industry, of which it may well be proud. The order comprised two designs of metre-gauge Beyer-Garratt locomotives of special type for very severe conditions of grade and curvature. Materials and the necessary accessories had to be obtained, a considerable amount of design work accomplished. Nevertheless, despite an already full shop the first locomotive a 2-8-0 + 0-8-2 type, was steamed in just under four months. The second design was a 2-8-2 + 2-8-2 engine, the inside carrying wheels improving tracking on the sharp curves of 330 ft. radius and also permitting increased capacity of water and fuel. These locomotives, although built to an axleload limit of 10½ tons, have a tractive effort, at 85 per cent. of the boiler pressure, of 41,890 lb. and are capable of hauling a load of approximately 230 tons on 1 in 25 uncompensated grade.

British Locomotive Builders' Physical Assets

THE British locomotive manufacturing industry was one of the first to be fully mobilised in the national war effort, and because of its experience in heavy engineering and the tools and equipment and facilities already in its possession, its resources were turned to the manufacture of armaments even before the actual outbreak of war, and played a part of major importance in the early struggle to get war production under way. Many of the products it was called on to build made excessive demands on the physical equipment of the works and there can be no doubt that, with a view to the maintenance to the full efficiency of an important arm of our export trade, the future equipment of these works is of major importance. At the present time, when the Government has been giving some indication of the policy it intends to pursue in the disposal of surplus stores after the war, the matter of the mechanical equipment of the locomotive manufacturing industry achieves a particular importance.

The trading position of the locomotive manufacturing industry between the wars was subject to wide fluctuations, in no way within the responsibility of the industry itself. With an insignificant home trade the locomotive builders were dependent almost entirely on overseas markets. Their ability to turn out a product which compared more than favourably with that of any of their competitors was conceded on all sides, but in the general conditions of world trade which prevailed for so long, with fluctuating exchanges, devalued sterling, trade and currency restrictions of all kinds, they were hard put to it to maintain their works at the desired progressive scale of efficiency. The low level of their financial results left no surpluses to be set aside for the full measure of depreciation which many of the leaders of the industry would have desired, and replacement of machine tools and similar equipment had to be constantly deferred; a policy of maintenance rather than renewal had to be adopted for longer periods than would have been the case if the financial resources had been available for re-equipment.

Nevertheless, when called on to produce munitions of war, the locomotive manufacturers threw themselves wholeheartedly into their task, without thought for the effect on their equipment. Machine tools designed for use on mild steel had to cope with armour plate, wear and tear was increased by the necessary employment of a large proportion of "green" labour, etc., with the result that a normal expectation of life in many cases was greatly shortened. Some of these machines had to be jettisoned, and under the pressure of twenty-four hours a day working and the over-riding need for continuity of the greatest possible volume of production, it happened frequently that when the machine failed it was set aside and a new machine installed as quickly as possible. Moreover, during the war there has been little opportunity from the viewpoint of time, labour, or materials, to rehabilitate these older machines, and many have been standing for upwards of two or three years.

At the present time the works of the British locomotive manufacturers contain a large number of Government-owned machine tools which have been installed partly to replace original tools which have broken down under the stress of war production, and partly to enable the greater output, first of direct munitions, or secondly of wartime locomotive production. In a recent debate in the House of Commons on post-war disposal of Government stores, the Government spokesman did not appear to receive very favourably a suggestion made by a member that after the war certain of these Government-owned tools might be retained by British manufacturers who had need of them. The suggestion seemed to be that these tools should be ear-marked for withdrawal from works and for use in rehabilitating liberated European countries. In general, there is much to be said, particularly from the viewpoint of the machine tool industry, for careful regulation in the disposal of the great surplus of machine tools which arises during wartime, and which after the last war were disposed of haphazardly on the bases of the highest bidder.

The position of the British locomotive manufacturing industry, however, has strong claims for special consideration. After the war, it should be among the most potent of our exporting industries. Already members of that industry have considerable orders on their books and more, doubtless, will be forthcoming as the war draws to its close. As at present constituted, it is in a position to go into immediate peacetime production, but if it were thought politic to withdraw Government-owned machine tools from the works a position of some embarrassment might arise. It might become necessary to close down the locomotive manufacturing works for a period of months, while old machines were reconditioned or, where they were too far gone for this process, new tools were purchased. This at a time when a high level of employment is doubly desirable in view of some measure of demobilisation would be most unfortunate. Moreover, for the reasons

already explained, the Excess Profits Tax standard of the locomotive manufacturing companies has been on a very low basis, and has allowed of no provision being made for the replacement of physical assets on the scale that would be required. The "concessions" announced in the Budget in the way of obsolescence allowances in no way meet the case of heavy-engineering industries, and are quite inadequate to deal with a problem of the seriousness which can be envisaged.

It is not suggested, of course, that the locomotive manufacturers should be permitted to retain Government-owned machine tools which have been provided ultimately by public funds, free of cost to themselves, even though their own equipment, in many cases, has been made valueless by work in the nation's cause. It might well be, however, that because of the national importance of maintaining and developing this important arm of our export trade, some agreement might be reached whereby, for instance, the industry might surrender some of its old machinery and retain similar tools which have been installed since and which, of course, because of the heavy work they have been performing, are by no means new. This would, at least, have the effect of putting the industry back into approximately the same position as it was before called on to produce munitions and would obviate fears, that after five or six years of unremitting service it should find itself penalised by reason of its own self-sacrifice.

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Retirement of Mr. A. F. Bound

THE years since the opening of the present century cover a period of great interest to the signal engineer, and with the developments that have taken place in that time in British signalling practice the name of Mr. A. F. Bound, the retiring Signal & Telegraph Engineer of the London Midland & Scottish Railway, will remain inseparably associated. He joined the Great Central Railway at a time when the first practical work in power and automatic signalling on main passenger routes in this country had proved itself successfully, and that railway, with one or two others, had decided to proceed further along the same course, and he has been very closely concerned with the numerous advances in signalling that have distinguished particularly the last forty years.

Low-pressure pneumatic signalling, both in ordinary interlocking areas and marshalling yards, intermediate block signalling, all-electric power signalling, and the application of track circuiting to ordinary mechanical signal boxes, were the features of the work carried out on the Great Central during the years immediately after Mr. Bound's appointment as its Signal Superintendent. Early interested in the possibilities opened by the 3-position power-operated semaphore, he advised his company to adopt it at Trent Bridge, Keadby, and became a prominent advocate for its extended use and of continuous track circuiting. He was, we believe, the first signal engineer in this country to point out the need for a fourth aspect if the benefits of these new methods were to be realised to the full.

Mr. Bound presided over the committee set up in 1922 by the Institution of Railway Signal Engineers to report on 3-position—or 3-aspect, as it would now be called—signalling and the requirements governing its application to British conditions. The committee sat for over two years and its report exercised a marked influence on multiple-aspect signalling practice, both here and overseas. By then, however, the colour-light signal had entered the field effectively and the Great Central itself in 1923 had put down between Marylebone and Neasden the first complete installation of such signals on a main line in Great Britain. That railway also had made extensive experiments with a form of train stop and automatic warning control of which he was joint inventor, and adopted electric operation of outlying points at Quainton Road Junction and elsewhere. The railway grouping and Mr. Bound's appointment as Signal Engineer of the Southern Area of the London & North Eastern brought new problems, among them the pressing need to find every available means to reduce operating expenses, to which end all the known proved signalling refinements were energetically applied.

The planning and equipping of the first part of the mechanised Whitemoor Yard was another important piece of engineering carried out just before he was appointed in May, 1929, to take charge of all signal, telegraph and telephone work on the L.M.S.R. The varied operating conditions applying on this extensive system, stretching from London to the extreme north of Scotland, with great numbers of different types of equipment, methods of block working, etc., inherited from the pre-grouping days, called for a considerable organisation and standardisation programme. The problem of signal aspects again claimed his attention, and an interesting experiment was made at Mirfield

in 1932, when speed signalling aspects were put into service. Mr. Bound set out the conclusions at which he had arrived on this subject in a paper read before the Institute of Transport and Institution of Railway Signal Engineers, which aroused much discussion; the Camden to Watford automatic signalling incorporated principles enunciated in the paper, particularly the application of marker lights.

Although the Mirfield installation was not repeated, one or two of its features, notably the splitting distant colour-light aspects, continued to be used and have been applied again in recent installations with every success. Another and very important application of colour-light signals has been the steady replacement by them on the principal L.M.S.R. main routes of the mechanical distant signals, with the object of obtaining maximum arrestive visibility in all weathers and eliminating fog signalling. Dwarf-type signals located in the space between tracks have been a successful innovation in this work.

Much experimental work has been carried out on the L.M.S.R. under his direction and we would refer specially to that connected with the adoption of the inductive automatic train control on the Southend line. In the telecommunications section of his department, too, the most modern developments have been progressively tried and adopted. In power interlocking and associated equipment he has carried out several important installations on the L.M.S.R. including modernising the rather involved signalling put in years ago at several large stations, but we refrain from referring to the actual localities under present conditions. Although not unsympathetic to the claims and possibilities of the most modern systems of power interlocking and control, to which he has indeed given encouragement, he has tended to be a little conservative and to feel greater attachment, perhaps, than some to old and well-proved methods.

A Member of Council of the Institution of Railway Signal Engineers from its incorporation in 1912, Mr. Bound has taken a prominent part in its debates and contributed valuable papers to its proceedings on several subjects. During his presidency of it in 1925 a visit was paid to the Belgian State Railways to inspect the mechanical multiple-aspect semaphore signalling applied there by the late Monsieur L. Weissenbruch, then attracting much attention. Mr. Bound is a member of other engineering institutions, and has taken a large part in the work of the Railway Clearing House, on behalf of the railways he has served; he has also been very active on committees of the British Standards Institution, covering signalling symbols and other details. In extending our best wishes to Mr. Bound on his retirement, we offer our congratulations to Mr. W. Wood, who succeeds him.

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Government and Industry

THE heading of this article is the title of a pamphlet* recently issued by the Fabian Society. Its aim is to design a framework for the future relations between the State and industry. The names of the authors are not given, but in a short preface Mr. Herbert Morrison, M.P., speaks of the essay as "eminently reasonable and unusually well-informed." The individuals who prepared it certainly write as though they possess an intimate knowledge of the inner working of our wartime Ministries. As will be gathered from extracts quoted below, positive statements are made about business transactions of Government departments without reference to authorities or the production of supporting evidence. It is a pity that a subject of importance to the public wellbeing should be treated in this way and we would not have troubled to review the pamphlet if the Home Secretary had not secured a good deal of publicity for it by giving a general kind of blessing to the plan propounded in its pages.

Broadly, the plan is to extend the wartime machinery for government control or supervision of industry into the coming years of peace. Transport, power and industries of "the natural monopoly type" would be brought under full public ownership. The rest of our industries would be administered through the following types of organisation:—

- (1) A reinforced Board of Trade or Ministry of Industry, with expert sections equipped to supervise all the great industries, whether fully nationalised or not.
- (2) A series of specialist bodies attached to this Ministry, acting as the final authority on the location of industry.

* Government and Industry; a Framework for the Future. Preface by Herbert Morrison, M.P.: Fabian Publications Limited, 11, Dartmouth Street, S.W.1. Price 6d.

the policy of monopolies and large-scale economic units, management, research and so forth.

- (3) A central buying Ministry probably distinct from the Ministry of Food—which would be the permanent skilled official purchaser of all types of goods from imported raw materials to battleships and housing equipment.
- (4) A series of development boards, not themselves trading bodies, but attached to individual industries, with the responsibility of supervising those industries according to public policy, without restrictive powers. These boards would be individually responsible to the section of the Board of Trade concerned with the industry in question.

In justification of this scheme we are assured that our wartime machinery has worked best when the Government has been in full charge of operations.

"The Ministry of Supply, as is well known, following the example of the last war, evolved a very large group of Royal Ordnance Factories, based on the peacetime Woolwich Arsenal. These were Government factories in the full sense and every worker in them (the number of whom was very great) was a direct employee of the State. There is no doubt that the great success of these production units rested on the fact, not merely that their location and working conditions were better and more intelligently planned than most private business factories, but that the labour force felt themselves to be working directly for the State, without any profit-making 'entrepreneur' intervening—just as if they were in the Forces."

We have italicised part of the first sentence in this quotation because in the last war Woolwich Arsenal was sadly inefficient until Sir Vincent Raven, Chief Mechanical Engineer, North Eastern Railway, was appointed Chief Superintendent of the Arsenal in September, 1915. In December of that year Mr. Lloyd George referred in his famous "too late" speech to Sir Vincent's work in these terms: "the services which he has rendered there have been conspicuous. I will give one illustration. The manufacturing and filling output of various articles has increased since he took it in hand, in some cases by 60 per cent., in others by as much as 80 per cent., whereas the staff has increased only 23 per cent. One of the things he initiated was a statistical record of the output. These records were not compiled prior to his assumption of control. Now they are having, and will continue to have, a potent effect not only upon the output but upon the cost of the output."

Woolwich, before the creation of the Ministry of Munitions, was hardly a pattern to imitate and our recollection is that the success of several munitions factories, established between 1914 and 1918, was due to the enthusiasm thrown into their management by local industrialists. We have not seen any published authority for the statement made about existing Royal Ordnance Factories or for a further assertion that they are more successful than "agency" factories, in which it is suggested that the psychological atmosphere is very different. Not a shred of evidence is offered in support of still another allegation that the predominance of "agency" factories in the aircraft industry probably had far-reaching effects on the war effort. We happen to know that a number of "agency" manufacturers had difficulties in their dealings with the Government which prevented them from working their plants to the best advantage and there is no comparison between the high-class work turned out in a large number of "agency" factories, including several railway shops, and the repeat processes performed in many munitions establishments.

We need hardly dwell on the complete difference between wartime conditions when the State makes full employment by consuming a great share of the goods produced, and peacetime, when manufacturers have to find their own markets and compete with other countries. We no more accept the theory that the State can co-ordinate and control industry on the lines proposed in the pamphlet than we can agree with the authors' dogmatic remarks about location of industry. They say that "looking back on these pre-war failures, with the knowledge of our wartime successes, imperfect though they may be; one can see how easily the organic disease of the depressed areas could have been foreseen, diagnosed and cured." After this sweeping statement it is not surprising to read that the solution of the problem of locating industry is "essentially simple"! The Barlow Committee's report is not even mentioned, but "the experience of wartime location," we are told, "has shown conclusively . . . that very many business men make choices in ignorance of the real economic factors and in search of social amenities." We are not informed where this experience is recorded, and it does not square with the accounts we have heard of the industrial agency work of our railways. For over 30 years the railways have been active in assisting traders to spot sites for works and they have found that each client has distinct requirements which can be fulfilled only by particular localities; as a general rule the trader is prepared to consider alternative proposals on their merits when details of available facilities of every kind are placed before him. We notice that

The Economist, on July 22, commended the pamphlet for "its acknowledgment that it is not the ownership of industry but the policy it pursues that is of major importance to the community," but goes on to urge that more thought should be given "to the principles that should limit and inspire the Government's intervention in industry." We heartily agree, and have little faith in any treatise on industrial questions which does not reveal its authors and the sources of their material.

Railway Wagon Ownership

ONE of the problems to be solved in connection with the post-war operation of the railways is that of wagon ownership. At the outbreak of war the railway companies owned about 650,000 wagons, and almost 590,000 wagons were owned by colliery companies, coal merchants, wagon-hiring firms and traders. Under arrangements which were being gradually extended, a large proportion of the railway-owned wagons were in common user between the companies when war broke out in 1939, but the privately-owned wagons were controlled by the individual owners and a good deal of shunting and empty-wagon haulage resulted from the necessity for returning them to particular pits or areas. It is true that in certain areas the amalgamation of collieries resulted in a common user of wagons between the pits concerned, but progress in this direction was comparatively slow. The action of the Minister of Transport in requisitioning all privately-owned wagons at the outbreak of war—apart from a few special types—and making them available for use in common with railway-owned wagons under the Central Freight Rolling Stock Control at Amersham has enabled large savings to be effected in empty-wagon haulage, which in turn has released locomotives for the movement of essential war traffics. The requirements of the collieries also have been met, apart from a few exceptional cases, notwithstanding the tremendously heavy burden which the railways generally have carried.

The advantages which have been gained from the institution of the central wagon control may well lead to pressure for its continuance. In the case of railway-owned wagons, however, it should be borne in mind that although distribution of empty wagons on the basis of "proved needs" has proved satisfactory during wartime, when a fixed annual rental is payable to the railways by the Government and each company's proportion is fixed, continuance of the central control in the absence of a fixed revenue or a pool of receipts would possibly raise important questions of principle, one of which might be the diffidence of a company to incur the cost of providing wagons mainly required for dealing with heavy traffics on other companies' lines. Any decision on this point, of course, will be dependent largely on the post-war organisation of the railways.

So far as the central control and common user of privately-owned wagons is concerned, it should be borne in mind that requisitioning has been successful in the main because, generally, the wagons have been in constant demand. At present there is a ready market for every ton of coal which can be produced, but it would be extremely optimistic to expect that this will be the case after the cessation of hostilities. The rehabilitation of the coal export trade may prove to be a somewhat lengthy process and collieries may well desire to revert to the practice of using wagons as temporary warehouses. Again, the general pooling of privately-owned wagons would mean that a smaller number of wagons would be required to perform a given amount of haulage. This in turn would mean a smaller total pool of wagons, with the normal corollary of a reduced annual renewal programme, resulting in a reduction in the order to private wagon builders, and consequent increased overheads on wagons constructed for the overseas trade. As explained in 1929 by the Standing Committee on Mineral Transport, the growth of private ownership of wagons has resulted in a far-reaching and involved commercial system of wagon finance, wagon hiring, and wagon repair, entailing the service and management of capital entirely unconnected with the railways, the producers or consignees. It would be difficult to terminate abruptly this system, which involves about 5,000 separate owners and the committee was able to recommend only an extension of the pooling of wagons by collieries. Later, in 1931, the Royal Commission on Transport stated that, assuming the necessary finance could be provided, the railway companies might eventually take over the ownership and running of all mineral wagons to the benefit of the community, but that such action was then neither advisable nor practicable. As in the case of railway wagons, further progress will doubtless depend upon the post-war organisation of the railways. An interesting letter on the future of wagons by Mr. Duncan Bailey, Chairman & Managing Director of Charles Roberts & Co. Ltd., and a foremost authority on the building, hiring, and finance of private owners' wagons, is published on page 183.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Is Public Opinion being Prejudiced Against the Railways?

3, Kensington Palace Gardens,
London, W.8. August 16

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—History repeats itself, for although this heading appeared in *The Railway Gazette* 24 years ago, it might well appear now. For some time it has seemed to me that officials of the Ministry of War Transport have gone out of their way to annoy the travelling public to the detriment of railway management and that they have been ably seconded by politicians. It looks very much as if a cry will be raised later to the effect that the railway companies have shown their incompetence and that the only solution is nationalisation.

Political bias has been shown in dealing with evacuation. Those travelling at the Government's expense are provided with special trains, but those who can afford to pay their own fares are faced with the slogan "Is your journey really necessary?" and compelled to travel in extreme discomfort.

In the House of Commons there is a continuing campaign against first class passengers, regardless of the profit made from first class tickets, and the Parliamentary Secretary to the Ministry of War Transport panders to the questioners. Another instance is the spineless attitude of the Ministry in the matter of the recent L.M.S.R. Bill.

It should be made plain to the public that Ministry interference is alone responsible for this harassing of the public.

Yours faithfully,

P. M. BROOKE-HITCHING

Free Wheels for Rolling Stock

London, W.C.1. August 16

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The reference by Mr. H. G. Ivatt in your August 11 issue (page 130) to recent tests by the L.M.S.R. of a bogie passenger van fitted with independent free wheels, that is, one wheel of each axle fixed to the axle, and the other free to revolve on it, recalls the fact that this principle was tried, with apparent success, on one of the pioneer mineral railways of this country, upwards of 200 years ago. The first railway of which a detailed description has survived was the Prior Park (or Combe Down) Wagonway at Bath, built by Ralph Allen for stone transport in 1731. Three years later it was described by Charles de Labelye (who became engineer for building Westminster Bridge in 1751) in a technical article published in "A Course in Experimental Philosophy" by Dr. Desaguliers—the Father of Modern Freemasonry.

From this, and other sources, quoted in my volume "The Evolution of Railways" (Second Edition), it appears that "Mr. Padmore, a very ingenious artist and mechanick" devised flanged-wheeled wagons with revolving axles 3 in. in dia., of which one end was squared and the other round. The two-axle wagons had the square ends of each axle at opposite sides of the vehicle. When the wheel on the square end was braked (and with it the axle), the wheel on the round end could turn independently, and vice versa. These rectangular flat wagons were of very robust construction and surprisingly modern appearance, as may be seen

from the accompanying drawing of 1734. The round and square axle ends of this free-wheel arrangement are clearly shown.

Yours faithfully,

CHARLES E. LEE

Mr. Ashton Davies

Kelshall, Hertfordshire. August 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The editorial published in your August 18 issue would give great pleasure to the many friends of Mr. Ashton Davies. It hits off admirably the personal characteristics of a great public character and at the same time does justice to the work of a good railwayman. In the interests of historical accuracy, however, one statement in your article calls for correction. We read that "the organisation of the Chief Commercial Manager's Department was unique, so far as British railways were concerned, in that it divorced the selling of transport from the operational side, and, for the first time in the history of British railways, one man was charged with the responsibility of public contact and securing business for a railway." You have forgotten the trend of development on the old North Eastern Railway during the 21 years before amalgamation.

In 1902 Sir George Gibb, who was then General Manager at York and at the height of his powers, reorganised the traffic departments, allotting the selling of transport to commercial officers and confining the Superintendent to operating duties. The change was a bold break with old traditions and gave a lead to more than one of the other railway companies. After Sir Alexander Butterworth became General Manager of the North Eastern Railway, he gave the commercial officers wide authority in dealing with questions of policy arising in all departments: the last word in negotiations with traders and public bodies generally rested with the Goods Manager. That office was held in succession by Sir Eric Geddes and Sir Ralph L. Wedgwood who, as you may imagine, made full use of these delegated powers.

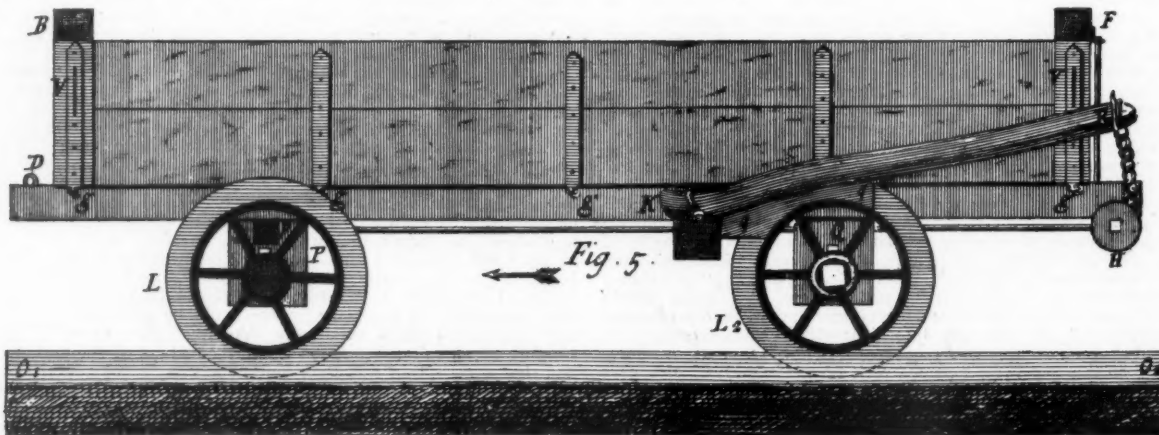
At the close of 1913 Sir Ralph Wedgwood became Passenger Manager of the N.E.R., as well as Goods Manager, and remained in charge of the two departments until he was appointed General Manager in 1922. He was thus responsible both for public relations and for securing business. These were great days at York. While co-operating with Mr. H. A. Watson in improving train services and encouraging Mr. W. M. Teasdale to vitalise the company's advertising schemes, Sir Ralph took the leading part for the whole of the railways in settling the present system of rates and charges. Even *The Manchester Guardian* appealed to York for guidance on the rates problem and received a lucid explanation written in language which differed somewhat from the Lancashire dialect!

On amalgamation the London & North Eastern Railway retained the North Eastern (and North British) practice of separating the selling of transport from the operational side, though it adopted an area organisation for traffic working instead of creating all-line departments. So far the company has not deemed it desirable to modify an organisation which for 21 years has answered the purpose of having three sources of energy and local initiative at London, York and Edinburgh.

You will see that 1932 was not such an epoch-making year as you thought.

Yours faithfully,

R. BELL



Side elevation of free-wheel wagon, 1731

The Control of Industry

Essex. August 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It was kind of Sir William Wood to spare time to reply in your August 18 issue to my letter of July 30, but his reasoning still fails to carry conviction. When the Rates Tribunal increased charges generally by 5 per cent. in 1937, it would know that trade seemed to be improving and that a good many prices were rising, but would also appreciate that the advance would not carry the railways much nearer to their standard revenue. The lamentable state of the railways in 1938 would not seem to show that the court acted successfully, as Sir William suggests.

The "statutory handicaps" are peculiar to the railways as public carriers and could hardly be matched by any set of restrictions which could be applied to a privately-owned industry, though certain trade practices do limit the freedom of individuals. The abolition of these customs might do more harm than good and similarly the removal of the railway companies' "special disabilities" might cause a general upset in transport without benefiting the railway stockholders. The Minister of War Transport has said that much more is required to put the railways in a stable position and would not appear to share Sir William Wood's faith in the present regulative machinery.

Yours faithfully,

EAST ANGLIAN

Railway Electrification Pros and Cons

68, Cannock Road, Stafford. August 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Without wishing to enter into any argument either for or against general main-line electrification, there are certain cases where electric operation would prove a boon and a blessing. I am an old L.B. & S.C.R. engineman, normally resident in Surrey; but due to the latest German devilry, have been compelled to become an evacuee, to get a few nights' sleep, and a little rest and recuperation. I have often wished to see *Big Emma*, the 0-10-0 banker at work on Bromsgrove Lickey; and being now within easy distance of this famous grade, recently spent an afternoon beside it, with an old official of the L.N.W.R.

Big Emma was temporarily absent, and the banking was done by L.M.S.R. 0-6-0 tanks of class "3F." The struggle the locomotives had, to get the trains up the two miles of 1 in 37, was calculated to break any true engineman's heart. One train of 41 loaded coal wagons and a brake van, had two class "4F" 0-6-0 engines on the front, and three "Mollies" (class "3F" 0-6-0 tanks) pushing up behind. Speed dropped to walking pace, and as first one engine slipped, then another, the din was terrific; the fires must have been pulled all to pieces, and more wear and strain on the motion than in 100 miles or so of ordinary running.

If a third rail were laid up the Lickey, and two or three big twin or triple-unit electric locomotives used as bankers, the ascent would be a nearly silent "cake-walk," and eliminate any strain in the train engine. I would suggest that the L.M.S.R. makes this the first job as soon as materials are available. Also, why not electric banking from Euston to Camden, where "juice" is already available?

Faithfully yours,

L. LAWRENCE

Thaxted, Essex. August 17

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In your August 11 issue, "East Anglian" writes in an interesting fashion on the possibilities of post-war electrification of the railways, but, although I do not feel competent to express any opinion on his main thesis, there are two points in his letter which seem to me to be somewhat inconclusive. Comparing the steam with the electric locomotive, he tells us that the average freight train moves at less than ten miles an hour with a net load of 125 tons or thereabouts. But this is not in any sense a reflection on the steam locomotive. In this country where great quantities of goods move in small consignments to many destinations, slow freight trains and small loads are to some extent probably a necessary evil. At any rate, the evil is attributable to circumstances with which the capabilities of the locomotive have no concern. In short, the comparison "East Anglian" permits himself of steam locomotives weighted down by the exigencies of goods and mineral traffic with electric motor coaches running on intensive suburban passenger services, with great respect, is valueless.

The second point, however, is somewhat more important. The object of installing electric traction, he tells me, is "to attract new business as well as to retain present custom." No doubt this is accurate in its way, but electricity does not of itself attract passengers. It is of value only in so far as it enables a railway to provide a service that will attract them.

In the case of suburban traffic, calling for rapid acceleration and an intensive service, the value of electrification is not in dispute. But in the case of our main lines electrification would involve a heavy capital expenditure which it might be difficult to justify on what it would earn. It would be necessary, not merely that electricity should produce a better service at a lower cost, but that the demand warrants the capital outlay.

If we had had, since the last war, a succession of governments worth the name, they would have made it a matter of policy to keep down the price of coal which for so many years has constituted the basis of our industrial well-being. It must be admitted, however, that the price of coal now threatens all industries, and I agree that if the price continues to rise electrification will come very much to the fore. The idea that electrification necessarily produces passengers is as false as the suggestion that an election programme necessarily produces a happier and more prosperous electorate. Everything, in short, depends on the need for the programme.

Yours truly,

ASHLEY BROWN

Railway Wagons' Future

Charles Roberts & Co. Ltd.,

Horbury Junction, Nr. Wakefield. August 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—My attention was recently called to a paragraph in the City column of *The Daily Telegraph* under the above heading. I am reluctant to reply, because the subject is of a highly controversial nature, and is at the present time *sub judice*, but the statements made were so utterly misleading and so likely to prejudice the judgment of "the man-in-the-street," who cannot be expected to have knowledge of the details of so complicated a matter, that I would like, with your permission, to make the following brief statements.

(a) In the first place, it is, to my mind, despicable that certain interested people wish to put forward their pet theories for the post-war world, and use the cloak of the greatest tragedy the world has ever known under which to advance their ideas. This question of the future of privately-owned railway wagons is one of their pet theories, coupled with a lot of nonsense about empty haulage in ratio to full loads.

(b) Therefore, I would like to point out that anyone with knowledge of the subject must realise that the volume and the type of traffic (entirely brought about by this terrible war) is quite abnormal, as is proved by the railway companies' annual figures, and, therefore, produces abnormal results which did not obtain before the war, and will not obtain after the war, whether the wagons are railway-owned or not, when this country settles down to normal industrial activity. Obviously, therefore, the argument, put forward based on war conditions, is falsely based.

(c) Further, a discreet silence is observed with regard to the serious disadvantages and indeed (in very many cases) the utter impossibility of a national pool of these wagons, so long as conditions remain as they exist at present. Whatever the future may hold, commonsense will dictate that only wagons of certain types are suitable for certain types of traffic, and they will certainly revert to these lanes of traffic in due course. What we have to watch is that the "man-in-the-street" should not be deceived, and not have put across him a gigantic bluff, that is, the wagons being ostensibly pooled, but really reverting to pre-war conditions, based on commonsense. Those who have inside knowledge of the position will know what I mean, and will also be aware of the serious disadvantages which are being put up with under the stress of war conditions at present, and by using wagons which are really unsuitable for the purpose.

(d) It is not right—indeed it is despicable—for people to make half-baked statements, giving only half of the case, in an endeavour to boost their pet theories, and I feel quite sure that no responsible railway official has yet put his name to any of these misleading statements, which, unfortunately, appear in various sections of the press, but, it should be noted, with no name attached. We get, therefore, a doubly despicable state of affairs; the cloak of the war and the cloak of anonymity. Those who wish to enter into these controversial matters should at least have the courage to put their names to the statements they make.

Yours faithfully,

DUNCAN BAILEY
Chairman & Managing Director

MR. ASHTON DAVIES.—Because of staff shortage and altered printing arrangements due to the war, and less time for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time. One occurred last week in the editorial article relating to Mr. Ashton Davies, when it was stated that he was "closely associated with the London & Yorkshire Railway School of Signalling." Obviously, this should have been Lancashire & Yorkshire Railway School of Signalling.

The Scrap Heap

STRANGE!

From a railway notice: "When trains are divided *en route* the buffet car will be available only to the portion to which it is attached."—From "The Newcastle Journal."

IT TAKES THE CAKE!

With so many strangers travelling today, the railway inquiry offices are sometimes called on to provide information on matters considerably outside their province. According to *The Scotsman*, among the odd inquiries which have been made at Waverley Station, Edinburgh, was one by an American soldier who asked whether points were required for shortbread.

RULE BOOK AND PAY DAY

Every servant engaged in working the traffic must, on receiving his pay, produce his book of regulations, or his pay will be withheld until the book is produced, or he has provided himself with another copy, for which he will be charged.

SPECIAL CONSTABLE GANGER

Platelayers and labourers are to be divided into gangs, each under the direction of a foreman or ganger, who is to be sworn in as a special constable, and will be held responsible for the necessary signals, tools and materials committed to his charge, and should he at any time be found without them he will be discharged.

MAXIMUM LIFT OF TRACK

In raising the permanent way, no lift shall be greater than 2 in. at one time, and then it must be effected in such a manner as to occasion no sudden change of level.

TELEGRAPH

Stationmasters and ticket collectors are required to learn how to work the telegraph, and to keep themselves in constant practice, so as to be able to send messages in case of need.

Each servant of the company employed in the working of the traffic at stations must learn the use of the telegraph. Those not competent to do so within six months of this date will be considered unfit for the service.

Any station being called for more than five minutes will be subject to a fine.

(Extract from the Rules & Regulations of the Belfast & Northern Counties Railway in 1861)



"Will the passengers for the 9.40 please TAKE THEIR SEATS"

[Reproduced by permission of the proprietors of "Punch"]

1½ HOURS QUICKER BY RAIL

A man leaving Leeds for London by train handed in a telegram at 1 p.m. to say he would be late. It was half-past seven when he reached London, but he travelled faster than his wire. That arrived at nine. It is 100 miles from Cheltenham to London. That, for an ordinary letter, is often two days' journey.—From "The Daily Express."

UNLUCKY NUMBER?

A curious feature of an accident on the Belfast & County Down Railway on April 16 last, when a well-loaded coal train running into the Bangor branch terminus failed to stop, was that the number of the engine was 13, the number of the brake van was 13, and the train consisted of 13 trucks. The engine, which was a 4-4-2 tank, crashed through the buffers and the leading bogie and driving wheels mounted the platform beyond. The driver and fireman jumped clear, but the guard, who remained in the brake van in an endeavour to assist in the braking, was badly shaken.

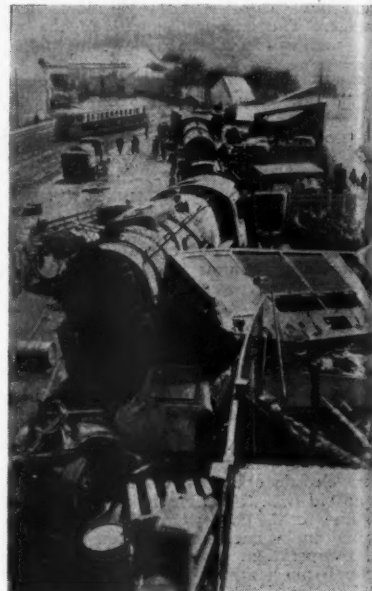
MOSQUITOES GO BY TUBE

A mosquito which in 1940 was found to bite Tube shelterers at sight is now extending its range within the London area, possibly with the help of the Underground trains. This variety, says the *Lancet*, was first discovered in half a dozen London boroughs four years ago, and bred freely all the year round in stagnant water in the Tubes. It was thought to be a simple matter to exterminate the larvæ by oiling the pools and the L.P.T.B. got to work. But investigations by the British Mosquito Control Institute show the insect is now going further afield.

A WAR RAILWAY STAMP

In recognition of the vital part in the war effort played by the railways, the Postmaster-General of the United States issued, on May 10, 1944, a special "commemorative railroad stamp"; the date chosen was the 75th anniversary of the completion of the first transcontinental railway in the U.S.A. As there is no post office at Cromontory, Utah, where the Union Pacific and Central Pacific rails were joined on May 10, 1869, and the historic ceremony of the driving of the golden spike took place, the cities selected for the dispatch of the first letters

bearing the new stamp were Omaha, eastern terminus of the Union Pacific Railroad; San Francisco, western terminus of the one-time Central Pacific (now Southern Pacific); and Ogden, Utah, present meeting-place of the two systems.



The illustration reproduced above was sent to the *London & North Eastern Railway Magazine* by Major G. F. Atkinson, formerly of the District Superintendent's Office, Newcastle, who is at present serving in North Africa. It shows the results of a collision, with which the Railway Operating troops had to contend.

"£14 MILLION RAIL BLUFF FAILED"

Railway shareholders yesterday exposed a great bluff that did not come off. And it was their own bluff. They passed resolutions at the last annual meetings of the railway companies calling for a revision of the wartime agreement with the Government.

They claimed £12,000,000 to £14,000,000 more a year than they had agreed to accept earlier for the duration and one year after. The agreed figure was already many millions more than what their railways earned before the war as private enterprises.

The *Railway Stockholder*, their official mouthpiece, now admits that "those who framed the resolutions were not unduly surprised when Lord Leathers failed to convince the Chancellor of the Exchequer to hand back the £12,000,000 or £14,000,000 needed to give railway stockholders standard revenue, though on public grounds they feel that the Government's decision is to be deplored."

Neither the British Railway Stockholders' Union, nor the London & North-Eastern Stockholders' Association, says *The Railway Stockholder* accept the Government's "No."

But how they propose to obtain this extra £12,000,000 to £14,000,000 from the pockets of the taxpayer, they don't reveal.—From "The Daily Herald," August 16.

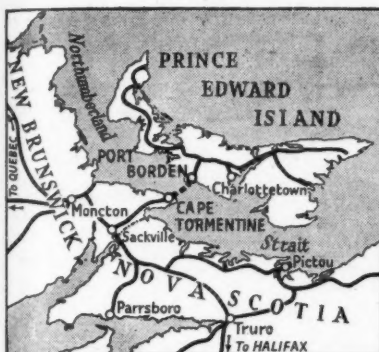
OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

CANADA

Ice-Breaking Train Ferry

A contract has been placed for delivery of a new ice-breaking train ferry which will be operated by the Canadian National Railways for the Government of Canada. The contract calls for completion and delivery before the winter of 1945, and the



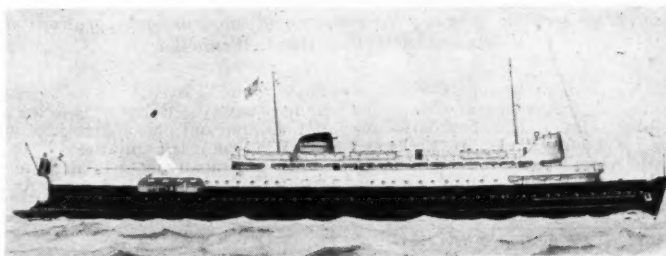
Sketch map showing train ferry route

ferry will be used between Port Borden, Prince Edward Island, and Cape Tormentine, Nova Scotia. It will carry railway passenger coaches and goods wagons, motor cars, buses, and passengers. It will have eight diesel engines generating more than 12,000 b.h.p., and it is stated that it will be the most powerful craft of its kind. There will be five decks: lower deck, main,

highway employees had been operating a grading machine immediately to the south of the crossing; as a result, a considerable amount of soil was dropped, and filled up the flangeways. About 1½ hr. before the derailment, a freight train had passed over the crossing, and was presumed by the I.C.C. Commissioner to have packed the earth solidly in the flangeways; although in view of the low speed at which the train was travelling, nothing untoward occurred. The passenger train, consisting of a locomotive, one mail-express van, and one coach, approached at 55 m.p.h., and it is thought that the tightly-packed earth was sufficient to lift the left front wheel of the engine bogie enough to allow the flange of the wheel to ride on the rail. The derailed locomotive stopped on its right side 373 ft. west of the crossing, in a badly damaged condition, and the two vehicles were derailed. The derailment might have been less serious but for the fact that there is a turnout 27 ft. west of the crossing; it was west of that point that the first marks were found of wheels on the sleepers.

Keeping the Staff Informed

The New York Central System has joined those American railways which are issuing special editions of their annual reports for the information of their employees. This company has issued an 8-page pamphlet which gives the basic facts and figures, elucidated by graphs and illustrations. Included with each report is a postcard addressed to Mr. F. E. Williamson, President of the New York Central System, inviting employees to advise him of their opinions on the clarity of the report,



View of the ice-breaking train ferry to be operated by C.N.R.

railway vehicle, deck, mezzanine, motor car, and boat decks. The passenger accommodation will include a lounge, smoking rooms, and rest rooms, as well as a restaurant with facilities for 200 meals an hour.

UNITED STATES

Packed Flangeways Cause Derailment

A derailment of an unusual type which occurred on the Minneapolis, St. Paul & Sault Ste. Marie Railway at Venlo, North Dakota, on November 4, 1943, caused the deaths of two employees and injury to two others, and was attributed in the report of the Interstate Commerce Commission to the fact that the flangeways across a level crossing had become so packed with dirt as to lift the wheel-flanges. The single-track line, over which a maximum speed of 60 m.p.h. is authorised, is straight at this point, and crosses a highway at an angle of 42 deg. 543 ft. east of Venlo Station; this is a plank crossing 24 ft. wide, and has 2½ in. flangeways.

Shortly before the accident, country

whether they would like it yearly, and, if so, on what matters they would desire to have further information.

A Railway Dispute Settled

A curious railway dispute has been settled recently by the Interstate Commerce Commission. In 1929 the Levisa River Railroad, a subsidiary of the Chesapeake & Ohio Railway, was authorised to build a 28-mile line from Millard, Kentucky, to the Kentucky-Virginia border, to tap certain undeveloped coal resources. Despite extensions of time, the last of which was to expire at the end of 1944, the line has never been completed; and meanwhile a State highway has been built over part of the route proposed. On October 7, 1943, the Norfolk & Western Railway applied for authority to build an extension from the present terminus of its Levisa branch to a point 10½ miles west, in Kentucky, to serve the territory which the Levisa River Railroad was to have tapped. The Chesapeake & Ohio opposed this application, and the Norfolk & Western asked for a revocation of the

certificate authorising the L.R.R.R. to complete its line as originally proposed.

The I.C.C. has decided in favour of the Norfolk & Western, provided that the company offer, within two months, to purchase the Levisa River Company's right-of-way where the two companies' routes follow the same course; the Norfolk & Western is authorised also to construct the 10½ miles of line desired, and the certificate granting the Chesapeake & Ohio an extension of time for completing the original line has been revoked.

SWITZERLAND

"Red Arrows" to Resume Service

Since the outbreak of war the "Red Arrow" electric railcars, which had been used extensively for excursion services on the Federal Railways, have been almost completely withdrawn from service. With the recent electrification of several branches which carry light traffic, there is a possibility of these railcars being used in place of short trains of ordinary stock. As they have no accommodation for luggage or parcels, each is being fitted with buffers and couplings to enable, when necessary, to haul a van the maximum load to be 30 tonnes. Additional equipment for this purpose includes Westinghouse brake and electric heating connections.

Another possibility at present under consideration is the use of "Red Arrows" for fast residential traffic to outer areas. A typical instance is that of Thun, 31 km. (19 miles) from Berne, where many workers reside because of the severe housing shortage in the capital. A recent trial trip with a railcar took 20 min. for the non-stop run, and interesting developments may be expected in this direction.

CEYLON

Colombo Tramways Purchase

The Colombo Tramways are now being run by the Municipal Council. The Colombo Electric Tramways & Lighting Co. Ltd. has received a payment of Rs. 3,633,433, the amount awarded by the umpire in the arbitration proceedings, and is to receive all profits till the completion of the purchase. The bulk of the shares of the tramway company are held by the United Planters Co. of Ceylon Ltd.

The Government Valuer, in the course of his evidence during the arbitration proceedings, said that the Colombo Tramways had 7½ miles of double track. Thirteen miles of track had been laid in 1898 and relaid in 1914. The rolling stock consisted of 52 cars. To maintain the service required 40 cars and one stand-by, leaving 11 cars for repairs and overhauls. On the renewal of rolling stock a sum of Rs. 235,000 had been spent between 1927 and 1937, in addition to large sums from revenue on maintenance. The average yearly revenue was Rs. 615,215 for the eight years 1932-39. From 1940 onwards the figures had shown a steady increase, and were Rs. 721,402 (1940), Rs. 789,931 (1941), Rs. 1,010,508 (1942) and Rs. 1,425,278 (1943).

He said that expenditure had increased steadily between 1937 and 1940. The average yearly expenditure for the past seven years had been Rs. 541,379; for the past five years, Rs. 565,495; and for the past three years, Rs. 615,589. The gross profits had amounted in 1941 to Rs. 276,781; and in 1942, to Rs. 413,977; and for the first ten months of 1943 the estimate was Rs. 679,772. The average yearly gross profits for the past seven years had been Rs. 279,002; for the past five years, Rs. 330,681; and for the past three years, Rs. 437,631.

Extensive Regrading Work near Chicago

Four tracks, extending three-and-a-half miles, were dealt with, and minimum interruption of traffic was caused

AN extensive scheme of regrading through Winnetka, a residential area on the shores of Lake Michigan, 19 miles north of Chicago, was carried to completion recently, at a cost of \$4,280,000, by the Chicago & North Western and the Chicago, North Shore & Milwaukee Railways jointly. The C.N.W.R. main line here carries about 100 trains daily, including "The 400" series of diesel streamliners, which travel at speeds of over 90 m.p.h.; and the C.N.S.M.R., which runs parallel to the former, with over 120 trains daily, is noted for the speed of its electric inter-urban service between Chicago and Milwaukee (though the fastest of its trains, including the stream-line Electroliners, use the Skokie Valley route, a little to the west).

Both are double-track lines, with the C.N.W.R. to the west of the C.N.S.M.R., and previously there were twelve level crossings within the Winnetka boundaries; also the North Western had three stations in the 3½ miles affected, and the North Shore had two main stations and four halts, one of which has been transformed into a station as part of the alteration work. For various reasons, it was decided that it would be preferable to drop the four tracks into a cutting rather than to elevate them on to an embankment; and for over two-thirds of the distance this had been done; but at Willow Road, towards the southern end, there is a sudden rise of about 20 ft. in the general elevation of the ground, and it was decided here, with 3,900 ft. of 1 in 140 grade, to change from cutting to embankment. This plan coincides with probable future line levels through the town of Evanston, a little further to the south.

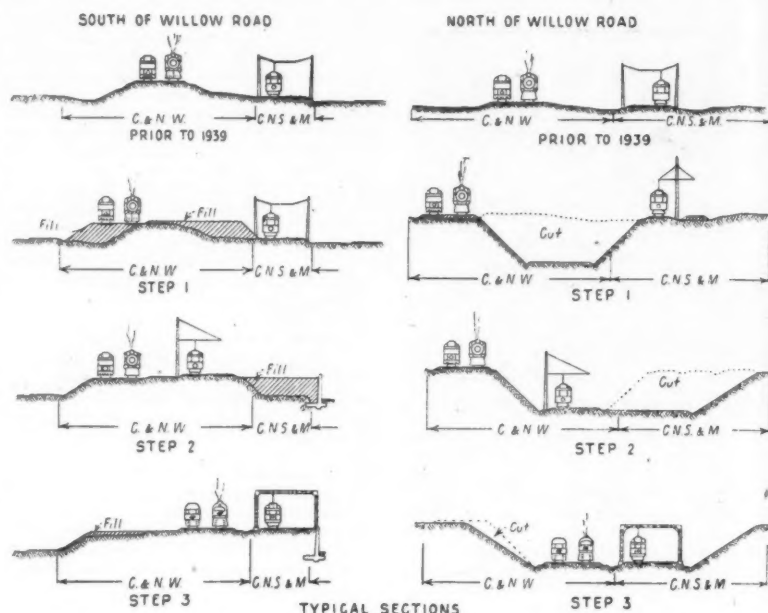
Through the cutting section, the first task was temporarily to slue the North Western tracks to the west, and then to excavate one-half the width of the new cut between these and the North Shore tracks. Next, the North Shore tracks were slued to the westward into the new cutting, while cutting was continued, under the old North Shore track location,

to the full width of the new cut. Then the North Shore tracks were slued back to their final location, and with the slueing of the North Western tracks into the cutting the work was complete.

On the embankment section, the North

to a new retaining wall, 2,300 ft. long and 11 ft. to 14 ft. high, along the length of Wilson Street, and the four tracks were then slued east to their final position.

With every slue, of course, temporary station platforms had to be built, so that there might be minimum interruption of traffic, and this formed one of the most complicated and expensive parts of the whole job; the signalling also had to be re-located each time the



Typical cross sections showing the sequence of construction operations south and north of Willow Road, Winnetka

Western was originally on an embankment, and the first stage was to widen this on both sides, and afterwards to slue the North Western tracks to the west; the North Shore tracks then were slued to an adjacent position. Filling was continued over the old North Shore site, up

tracks were moved. Nine road overbridges have been built, two for pedestrians only, and one underbridge, as well as three pedestrian subways.

The accompanying diagrams are reproduced by courtesy of our American contemporary, the *Railway Age*.

B.E.T. GROUP NATIONAL SAVINGS.—With the savings for the three months from April to June, 1944, the total savings of the group have now amounted to £526,320, well over the half-million mark. The seven companies with the best average weekly savings per employee figures for the June quarter were:—

		Savings per employee per week
		s. d.
Sheffield United	...	7 4
East Midland	...	6 2
North Western	...	5 7
South Wales	...	4 11
Aldershot & District	...	4 11
East Yorkshire	...	4 9
Ribble	...	4 7

MORE LOUD-SPEAKERS ON THE UNDERGROUND.—More loud-speakers are to be installed at Underground stations, including Waterloo, Kennington, Charing Cross, Kings Cross, Baker Street and Wembley Park. The equipment will be installed on platforms and in booking-halls and circulating areas, according to the needs of traffic. Similar equipment has already

been installed at twelve London Transport stations, including Piccadilly Circus, Oxford Circus, Strand, Moorgate, London Bridge, Westminster, Hammersmith, Acton Town and Finchley Road Stations. At these points, it has been found that loud-speakers assist considerably in handling traffic, particularly where trains have to be reversed or traffic directed to other routes in consequence of the closing of the tunnel flood-gates.

CONTROL OF BOLTS, NUTS, AND RELATED ITEMS.—The Minister of Supply has made the Control of Bolts, Nuts, Screws, Studs, Washers & Rivets (No. 5) Order, 1944, effective from August 15, 1944, which amends the Nos. 1, 3 and 4 Orders, 1943. The principal alterations concern reductions or increases in maximum prices, and the introduction of certain maximum prices. The second schedule to the existing Order and the related schedules are revoked and are replaced by a new second schedule and new related schedules. Copies of the Order may be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2, or through any book-

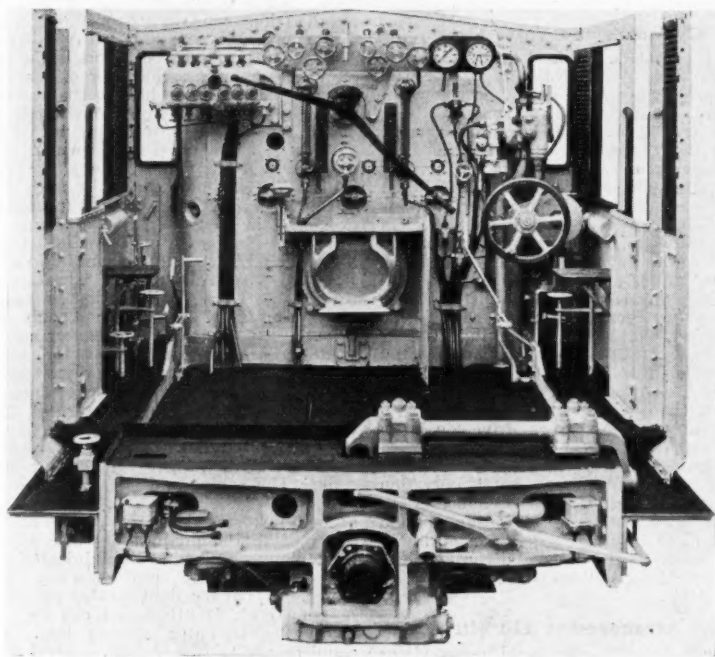
seller, price 1d. (S.R. & O. 1944, No. 910).

FRICTION SURFACE RUBBER TRANSMISSION BELTING.—A revision of B.S. 351-1929 for friction surface rubber transmission belting has been issued by the British Standard Institution, to meet the emergency caused by the rubber shortage. The revised specification, which was prepared for the B.S.I. by the Federation of British Rubber & Allied Manufacturers' Associations, is based on Rubber Control Order No. 16. Copies of the specification may be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1, price 2s., post free.

LONDON BUS FARE PROPORTIONS.—A test made by London Transport on a number of its Central Bus routes has shown that of 6,793 fares paid, 76 per cent. were for 1½d. and 2d. rides. Of these short-distance passengers, 42 per cent. wanted change. A second test showed that there was a saving of 4½ min. in the time taken to supply tickets to 25 passengers when they offered the right money.

Metre-Gauge Beyer-Garratt Locomotives for 1 in 25 Grade

*Designed and built to the order of the Ministry of Supply
for the War Department*



THE full story of the many, varied and urgent demands made by the Directorate of Transportation War Department has yet to be told, but from time to time news of notable achievements has been released.

Last year Beyer, Peacock & Co. Ltd. received instructions from the Ministry of Supply that a large number of engines was urgently required by the War Department and that the first must be ready by a date exactly four months ahead.

The locomotives, required for the Eastern theatre of operations, were to be of the Beyer-Garratt type, metre gauge, and with a maximum axle load of 10½ tons, suitable for continuous 1 in 25 grade uncompensated for curvature, the maximum radius of which was 330 ft. without intervening tangent. To facilitate preparation work and to expedite production, an existing base design was selected—a 2-8-0 + 0-8-2—which had already proved itself under the severe conditions mentioned over a period of years, and the first batch of ten engines was built to this wheel arrangement. Nevertheless, despite the time limit, a considerable amount of detail modernisation was embodied in this first design, thus bringing it more in line with the firm's later developments. Some of the improvements necessitated consequential alteration to adjacent parts, as the brief reference below indicates.

Long experience with the performance of engines operating under similarly severe conditions of grade and curvature dictated that the wheel arrangement should be 2-8-2 + 2-8-2; the inside carrying wheels thus protecting the coupled wheels, and also increasing coal and water capacity. Accordingly, it was decided that a further design should be proceeded with; the two types were identical except

for alterations necessitated by the different wheel arrangement.

Orders for all the necessary materials and accessories had to be placed, although to make a commencement, certain materials, such as boiler plates, were diverted from other contracts. Incidentally, it was not until eleven weeks before the first engine was steamed, that any material ordered specifically for the contract first entered the shops.

It was inevitable that there should be a considerable degree of dislocation of production programmes due to these overriding demands and necessary, but inconvenient, "leap-frogging" of work in the various departments. In spite of these very real and unusual difficulties the first locomotive was tested in steam two days ahead of schedule and subsequent engines were turned out on the actual dates specified. The more important alterations in design were:—

General modernisation of the engine unit chassis.

Re-designing in the vicinity of the pivot centre to permit the fitting of Beyer

Peacock's latest inverted type of pivot with wedge adjustment and roller side bearings.

Bogie axleboxes of latest design with rocking brasses.

Independent steam brake fitted on each engine unit with hand brake on hind unit.

Valve gear re-designed to operate with the die block in the bottom of the link on both units, thus giving direct drive in forward gear.

All steam and exhaust pipes rearranged in accordance with the makers' latest practice.

Latest type of self-cleaning ashpan, fitted with ash doors operated from the ground level.

Inner firebox of steel, with welded seams and welded firehole.

Flexible crown stays and water-space stays fitted; also three arch tubes in the firebox.

Grate re-designed with rocking firebars operated by steam or hand and also drop grate.

Cylinder cocks altered to hand operation.

Tyre-watering gear fitted, with water valves operating automatically when the steam brake is applied.

Fitting of Wota N.C. bye-pass valves, Zara-type regulator and drifting valve; also Gresham's latest ejector and graduable steam-brake valve.

Lubrication of the cylinders and steam ball joints re-designed to be fed by one six feed Wakefield Eureka sight-feed lubricator to each steam pipe just before the ball joints.

This list, which does not include the smaller details and the attendant alterations due to the major modifications, gives some idea of the amount of design work involved. Nevertheless, as already indicated, the first engine was completed in seventeen weeks. The leading dimensions of the two types are given at the foot of this page.

As will be noted from the particulars below, the boilers of both types are identical. They are also interchangeable with, and have practically the same dimensions as, the boilers of the original engines. Small differences come about due to the present engines having steel fireboxes as against copper originally. Several improvements and alterations, however, have been embodied, such as the fitting of three arch tubes and the provision of four rows of flexible stays at the front of the firebox crown, and flexible water space stays in the breaking zones in the firebox sides and back. The inner fireboxes have welded seams and the firehole is also welded. The firehole door, of cast steel, is of the combined deflector and door type. Rigid water-space stays are of Longstrand steel. The diameter of the barrel is 5 ft. 8½ in.; the distance between the tube plates is 11 ft. 9½ in. The steel

Type—	2-8-0 + 0-8-2	2-8-2 + 2-8-2
Cylinders (4), dia. ...	15½ in.	15½ in.
... × stroke ...	20 in.	20 in.
Coupled wheel dia. ...	3 ft. 3 in.	3 ft. 3 in.
Boiler pressure ...	200 lb. per sq. in.	200 lb. per sq. in.
Evaporative heating surface—		
Tubes ...	1,555 sq. ft.	1,555 sq. ft.
Firebox (incl. arch tubes) ...	187 sq. ft.	187 sq. ft.
Total evaporative ...	1,742 sq. ft.	1,742 sq. ft.
Superheater ...	313 sq. ft.	313 sq. ft.
Total ...	2,055 sq. ft.	2,055 sq. ft.
Grate area ...	43.7 sq. ft.	43.7 sq. ft.
Coal capacity ...	5 tons	6 tons
Water capacity ...	2,000 gal.	3,600 gal.
Rigid wheel base ...	11 ft.	11 ft.
Total length over buffers ...	70 ft. 7 in.	78 ft. 0 in.
Maximum axleload ...	10½ tons	10½ tons
Tractive effort at 75 per cent. b.p. ...	36,960 lb.	36,960 lb.
" 85 per cent. b.p. ...	41,890 lb.	41,890 lb.
Total weight in working order ...	103 tons	118 tons

boiler tubes consist of 28 superheater tubes of 5½ in. outside dia. and 206 small tubes of 1½ in. outside dia. The superheater is of the Superheater Company's latest type with cast-iron header and snifting valve, the elements are 1½ in. outside dia. The smokebox is fitted with a hot-water ash ejector and the blast pipe with Goodfellow tips. The regulator is of the Zara type located in the dome. Two 3-in. Ross pop safety valves are provided.

Rocking firebars have been arranged, as already mentioned, and can be operated by steam 'or hand; drop grates are also provided. The ashpan is of the latest self-cleaning type as fitted to all recent Beyer-Garratt locomotives, with emptying doors arranged to discharge the ashes between the rails. An Everlasting blow-off cock is fitted on the front of the firebox.

The boiler, firebox, dome, cylinders, steam and exhaust pipes are clothed with asbestos mattresses. Expansion glands, etc., of special design, are easily accessible, and located according to the makers' latest practice. The boiler is fed by two No. 10 Gresham & Craven non-lifting self-acting re-starting injectors, delivering through top-feed clackboxes. The height of the boiler centre from rail level is 7 ft. 3 in. and to the top of the chimney 11 ft. 3 in., thus coming within Eastern and Far Eastern loading gauges. The boiler is carried in the usual type of boiler cradle, at the extremities of which are located the female portion of the inverted pivot, this forming part of a massive steel casting.

General and Wheel Arrangement

As the illustrations indicate, frames are of the plate type, thus keeping total weight to a minimum, a point of no small importance in heavy grade operation. The coupled axleboxes, of gunmetal with white metal on the crown and hub faces, function between cast-steel hornblocks, which are fitted with adjustable wedges and liners. In the case of the 2-8-2 + 2-8-2 design, the carrying wheel bearings have axleboxes of latest type with rocking brasses located in a framework complete with radial arm. The coupled springs underhung, have adjustable links and are compensated in two groups. For the 2-8-0 + 0-8-2 design, the first group comprises the outer bogie and outer coupled wheel, and the second group the intermediate, driving and inner coupled wheels. For the 2-8-2 + 2-8-2 design, the first group comprises the outer bogie and outer coupled wheel, and the second group the remaining coupled and inner bogie wheels.

The design of the tanks and bunker has been brought up to date, including improved tank fastening and raising for accessibility, and the provision of a tunnel for giving free access to steam-pipe joints and fittings between the frames. Doors are also provided on the inner end of the front tank to facilitate tube withdrawals.

The locomotives are fitted with steam brake to all the coupled wheels of both engine units, with the hand brake operating on the hind engine unit only. Vacuum brake is arranged for the train. Brake control in the cab consists of a Gresham & Craven type G latest solid-jet ejector, with Mark IV graduable steam-brake valve.

Oil lubrication is arranged for the coupled and bogie axleboxes, connecting and coupling rods, valve-gear details, brake details, compensating beams, pivot

centres, steam expansion joints, exhaust ball joints, spring links and side roller bearers.

Sanding gear is of the Lamberts wet type, positioned to the front and rear of each group of coupled wheels. Special tyre watering is provided at each brake block; the application is automatic with the operation of the steam brake.

Cylinders and Valve Gear

The cylinders, of cast iron, are provided with Wota, N.C. type bye-pass valves, pressure relief valves on the cylinder covers and a Sellars steam drifting valve is fixed on the firebox and operated from the driver's position in the cab. The pistons, of cast iron, have two narrow rings; the piston rod, fitted with United States air-cooled metallic packing, is cottered to a forged-steel crosshead of the Laird type, which works between two solid bars arranged above the centre line of the cylinder; the drive is on the third pair of coupled wheels. The piston valves are of the four ring type, with inside admission, the valve travel in full gear being about 5 in. These are actuated by Walschaert's valve gear controlled by geared hand wheel. As already mentioned, the valve gear has been redesigned to give direct drive on both units in forward gear in accordance with the maker's latest practice. Cylinder cocks are arranged for hand operation and the lubrication of the cylinders is as mentioned in the list of alterations quoted above. Connecting rods have ordinary split brasses with wedge and through bolt adjustment. Small ends are of the plain bush type.

Cab Arrangement and Fittings

The cab is of the usual commodious type possible with the Garratt locomotive and which is usually so difficult to obtain in ordinary straight-type narrow-gauge locomotives. The width, however, is unfortunately restricted in this case to

8 ft. 6 in., as is also the height, to conform to the specially severe restrictions of the Indian loading gauge. As can be seen from the illustration at the head of this article, it is of the enclosed type with side entrance doors of half height and side-sliding louvres. The cab back is fitted with folding doors providing access to the bunker. In addition to the side windows, doors and front spectacle windows, additional ventilation is provided by large ventilators in the cab roof. Seats are provided for driver and fireman. All controls have been arranged with due consideration to convenience of operation; each control is not only designated but marked for open and shut positions. A point of interest is the long gauge glass. The sight is 1 ft. ½ in.; this is necessary and specified for operation on 1 in 25 grades, as the change of water level from an ascending to a descending grade of this magnitude represents no less than 10½ in. variation in the glass. To assist operation, indicator plates are fixed recording not only the "fouling points" on the maximum grades, but also the permissible water levels. The glasses are protected by brass louvres. Stone's electric light is provided. The turbo-generator, of 500-watt capacity, is on the left-hand side of the boiler cradle. Tonum E. 14-in. focusing headlights are arranged at both ends of the engine and side oil lamps are also provided. The cab-lighting consists of one light fitted in the centre of the cab roof to illuminate the whole of the back plate, one behind the lubricator and one to illuminate the reversing gear sector. A bunker light is also provided. A scum cock is fitted and can be seen below the regulator stuffing box. The couplers are of the A.B.C. central type and both ends of the locomotives are fitted with plate cow catchers of special design. Four 25-ton lifting and traversing screw jacks and ramps are carried on the running board and front tank respectively.

Improving the Permanent Way in Spain

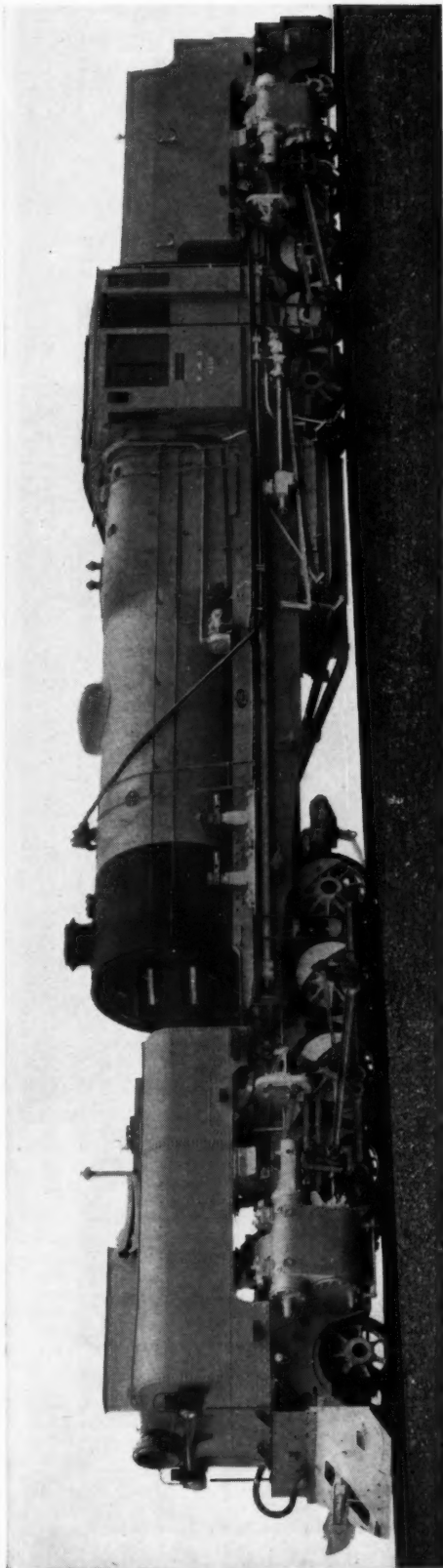
THE increase in speeds and axle loads on the principal routes of the Spanish National Railways has led the administration to review the chief types of permanent way in use on the main lines in other countries, with a view to deciding on a standard form of heavy construction for itself for the future. It is understood that a general programme of renewals is to be put in hand, so that all the main lines shall be suitable for the heaviest class of traffic.

A note by Señor F. Moneva in *Ferrocarriles y Tranvías* states that the choice, as regards general design, has fallen on the German State Railways' type of track known as the class "K," which is formed of flat-bottom rails weighing 49.82 kg. per metre (about 100.5 lb. per yard) resting on soleplates measuring 360 x 160 mm. (14½ in. x 6½ in.) themselves coachscrewed to the sleepers in four places, to which they are secured by longitudinal inverted U-plate clamps and bolts with rounded T-heads, with spring washers under the nuts. The soleplates have the top face sloped to give an inward cant to the rail and the top surface of the sleeper is not interfered with in any way. (On steel sleepers the soleplates are welded to them.) The rails used in Germany are supplied in lengths of 30 and 15 m. (98 and 49 ft. approx.) and use 47 or 24 sleepers respectively.

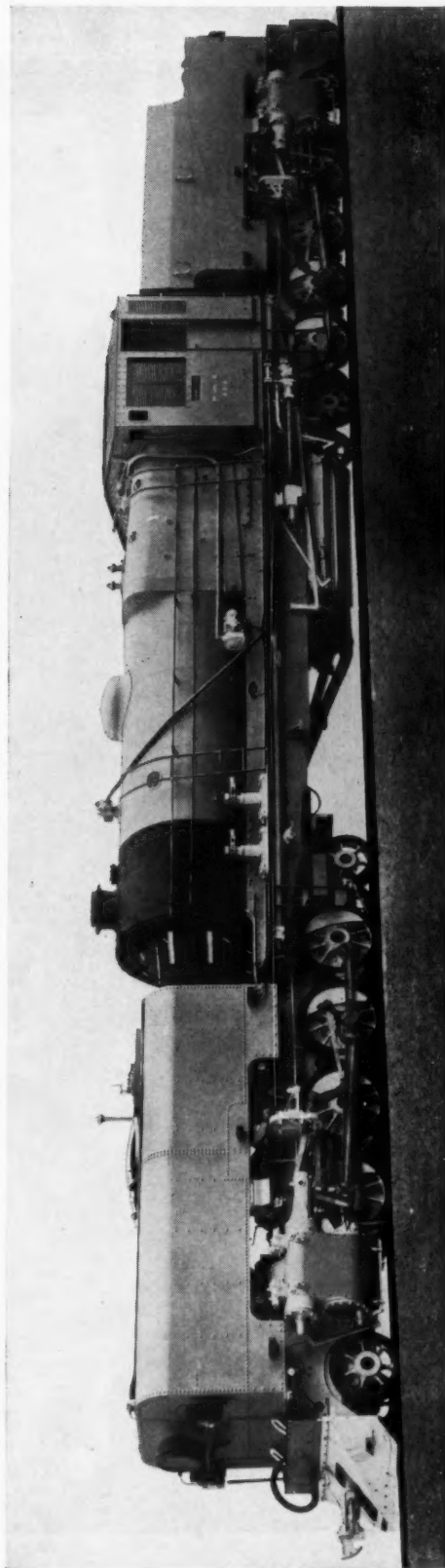
Other conditions being equal, the longer rail is preferred, as the number of

joints is appreciably reduced. Any tendency to creep is counteracted by inserting an elm filler plate 8 mm (⅝ in.) thick between rail and soleplate. At the joints, which have four-hole fishplates, two sleepers are bolted solidly together and the plates, of angle pattern, have recesses in them, to clear the clamping pieces under the nuts of the soleplate bolts. The fishbolts have rectangular heads also engaging with recesses in the angle plates. One large soleplate is used.

The main tracks in Spain at present have 45 kg. per metre (about 90 lb. per yd.) rails, and a design has been worked out for incorporating all the essential features of the German type "K" permanent way while using available materials to the greatest possible extent. Thus the fishplates are those used with the present track laid with this weight of rail; they are thus equally applicable to the ordinary or re-inforced design. At the intermediate sleepers it was thought desirable to adopt something a little less costly than the German arrangement and even to use a 3-hole form of soleplate, already employed in Spain. The arguments in favour of having the two or the one coachscrew on the inside were of such equal value that finally the choice fell on using a 4-hole plate, used now with the Spanish 45-km. rail. The arrangement permits of readily substituting an 18-m. (59-ft.) for a 12-m. (39-ft.) rail when desired.



General view of the first design, with 2-8-0 + 0-8-2 wheel arrangement



Similar view of second design, with 2-8-2 + 2-8-2 wheel arrangement

LIGHT-TYPE (HEAVY GRADE) BEYER-GARRATT LOCOMOTIVES FOR METRE GAUGE



Lounge-parlour observation car of the Illinois Central Green Diamond train, U.S.A.

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RAILWAY NEWS SECTION

PERSONAL

Colonel C. H. Hamilton, Chairman of the South African Railways Service Commission, has been seconded to the position of Director, Port & Shipping, Cape Town. Mr. W. A. J. Day has been appointed Acting Chairman of the Commission during the absence of Colonel Hamilton.

Mr. A. F. Bound, M.I.Mech.E., A.M.I.E.E., M.Inst.T., Signal & Telegraph Engineer, London Midland & Scottish Railway, who, as recorded in our August 11 issue, is retiring on August 31 next, received his early training from 1894 to 1898 as a premium apprentice at the Loco-

L.N.E.R., and in 1929 he joined the L.M.S.R. in the then new position of Signal & Telegraph Engineer; he was promoted to the status of Chief Officer in 1932. Mr. Bound received the Gold Medal of the Institute of Transport for railway engineering subjects for 1923-24; he was a Member of Council of the Institute for 1929-32. Mr. Bound was President of the Institution of Railway Signal Engineers in 1925.

The late Earl of Mount Edgumbe, formerly a Director of the Great Western Railway Company, left £600,411.

We regret to record the death of Mr. Henry W. Lee, Chairman of the Super-

The Fibreboard Packing Case Manufacturers' Association has made arrangements with Mr. W. G. Anwyl (late Chief Goods Assistant to the Secretary of the Railway Clearing House) for the use of his services as Transport Liaison Officer. He will act in an advisory capacity to the Association on all transport matters and will represent it at meetings of transport associations and other bodies.

Mr. W. Wood, M.I.E.E., Assistant Signal & Telegraph Engineer, London Midland & Scottish Railway, who, as recorded in our August 11 issue, has been appointed Signal & Telegraph Engineer, commenced his railway career in 1904 as a premium pupil on the North Stafford-



Elliott

Mr. A. F. Bound
Signal & Telegraph Engineer,
L.M.S.R., 1929-44

[G. Fry

**Mr. W. Wood**

Appointed Signal & Telegraph Engineer,
L.M.S.R.

motive Works of the London Brighton & South Coast Railway, under the late Mr. R. J. Billinton. From 1898 to 1902 he was employed as a draughtsman by the then firm of Vickers, Sons & Maxim, and was engaged chiefly in the design of gun mountings. In 1903 he was appointed an outside assistant for the British Pneumatic Railway Signal Company, and was engaged on the installation of low-pressure pneumatic signalling in the vicinity of Basingstoke and Staines, on the late London & South Western Railway. In November, 1903, he joined the Great Central Railway as Assistant Signal Superintendent, to superintend a similar installation between Ardwick and Hyde Junction, and in April, 1906, succeeded the late Mr. Thomas Wharmby as Signal Superintendent. In 1924 he was appointed Signal Engineer (Southern Area),

heater Co. Ltd., at the age of 65. Mr. Lee was also a Director of the Chloride Electrical Storage Co. Ltd., and, until 14 months ago, he was Managing Director of J. Stone & Co. Ltd.

Mr. W. H. Powell, Director and formerly also General Manager of the Westinghouse Brake & Signal Co. Ltd. and Chairman of W. R. Sykes Interlocking Signal Co. Ltd., has been elected Chairman of the Vacuum Brake Co. Ltd.

SOUTH AFRICAN RAILWAYS & HARBOURS

Mr. C. J. H. Schoombie, Superintendent (Operating), Pretoria, has been appointed System Manager, Kimberley.

Mr. S. P. Havenga, Superintendent (Operating), Kimberley, has been appointed Superintendent (Operating), Cape Town.

shire Railway. In 1908 under the Territorial Scheme he raised and trained the North Midland Divisional Telegraph Company, Royal Engineers, with men from the railway and post office, with headquarters at Birmingham; Mr. Wood was the first commanding officer. He was appointed Assistant Telegraph Superintendent on the North British Railway in 1911, and succeeded the late Mr. A. F. Clement as Telegraph Superintendent in 1912. Shortly afterwards he took over the electrical power and lighting. He was subsequently responsible for the electrical and telegraph work, including all electrical work in connection with the signalling in the Scottish Area, L.N.E.R., and was actively engaged on signalling schemes. Mr. Wood joined the L.M.S.R. in 1933 as Principal Assistant to the Signal & Telegraph Engineer, Derby; he was appointed

Assistant Signal & Telegraph Engineer later in the same year. Mr. Wood was for many years a member of the Telegraph Superintendents' Conference, and was President for one year before the amalgamation. He has been a member of the Institution of Railway Signal Engineers since 1913 and on the Council since 1924; he was Vice-President in 1929 and President for the 1930-31 Session. He is also a member of the Institution of Electrical Engineers and Institute of Transport, and has written several papers of electrical and signalling interest.

Mr. John Lucas Willoughby, O.B.E., Port Manager, Port Sudan, who has been selected to succeed Mr. C. L. S. Dibben



Mr. J. L. Willoughby
Appointed Traffic Manager,
Sudan Railways

as Traffic Manager, Sudan Railways, was educated at Ovingdean Hall, Brighton, and at Westminster School, where he was a Classical King's Scholar. He entered L.N.W.R. service as a probationer in April, 1918, and obtained experience in all sections of the Traffic and Goods Departments. In 1923 he took up an appointment in the Traffic Department of the Buenos Ayres Great Southern Railway, and served in various positions until appointed Assistant Chief of Control & Movement for the Southern Division of that railway in April, 1927. In May, 1928, Mr. Willoughby entered the service of the Sudan Railways as District Traffic Manager, and served in that capacity and as Assistant Operations Superintendent until he was appointed Assistant Port Manager, Port Sudan, in 1935. In August, 1937, he became Acting Port Manager, and in August, 1938, Port Manager. In addition to his duties as Port Manager, Mr. Willoughby undertook the representation in the Sudan of the Ministry of War Transport. He was also Chairman of the local War Transport Committee from the institution of that body in July, 1941. He was mentioned in dispatches in 1941, and in recognition of his services he was made O.B.E. on the occasion of the King's Birthday, 1944.

Mr. Robert Mervyn Cummins, Operations Superintendent, Sudan Railways, who has been appointed Port Manager, Port Sudan, in succession to Mr. J. L. Willoughby, was born in Roscrea, County

Tipperary, Ireland, in 1898, and commenced his railway career with the former South Eastern & Chatham Railway. He served with the Armed Forces from 1914 to 1919, in France, Salonika, Palestine and Transjordan. Immediately after demobilisation he was appointed to the Sudan Railways, and, after five years' general experience in the Traffic Department, was transferred to Port Sudan. Mr. Cummins gained a wide knowledge of all port and railway operations before being appointed Operations Superintendent in 1934. His wide experience with Sudanese staff and keen interest in their training has led to the introduction of new training methods, particularly suited to the Sudan Railways. The success attained was exemplified during the Eritrean and Abyssinian Campaigns of 1940-41, when greatly-increased military traffic was handled successfully over the single-line system of the Sudan Railways.

INDIAN RAILWAY STAFF CHANGES

Mr. K. C. Chaudhuri, on transfer from the N.W.R., has been appointed Deputy Chief Accounts Officer, G.I.P.R.

Mr. J. W. Henderson, on return from leave, has been re-appointed as Divisional Superintendent, Quetta, N.W.R.

We regret to record the death on August 18 of Mr. James Blake Mundell, for many years a Director, and for the past twelve years Managing Director, of Hurst, Nelson & Co. Ltd., and Chairman of Wagon Repairs Limited, an associated company. Before joining the board of Hurst, Nelson & Co. Ltd., Mr. Mundell had spent a long period in the service of that firm.

Captain T. A. Gore-Browne, Grenadier Guards, the younger son of Colonel Eric Gore-Browne, Chairman of the Southern Railway Company, who had been reported wounded and missing since February last, is now known to be a prisoner of war in Germany.

The L.N.E.R. announces that Mr. P. M. Butler, Assistant Goods Agent, Hunslet, has been appointed Acting Goods Agent at Newark.

Mr. W. F. Minnis, J.P., who, as recorded in our August 4 issue, retired from the position of General Manager of the Belfast & County Down Railway on July 31, has completed continuous service with that company of over sixty years. He commenced as a junior clerk in the General Manager's Office in July, 1884, and among many positions which he occupied in the earlier stages of his career were those of Parcels Clerk, Booking Clerk and Relief Station Agent. He was appointed Goods Agent at Belfast in 1897, and became Traffic Superintendent of the Line in 1904. He was appointed General Manager in 1926. During his period with the company he served under six Chairmen (Mr. R. W. Kelly, Mr. Joseph Richardson, the Rt. Hon. Thomas Andrews, Mr. Thomas Richardson, Mr. James Barbour, and Mr. James Hurst) and under four General Managers (Mr. J. E. Medley, Mr. Joseph Tatlow, Mr. J. S. Pinion, and Mr. C. A. Moore). Mr. Minnis was Chairman of the Irish General Managers' Conference in the years 1929, 1935, and 1941, and was a Member of the Irish Railways Wages Board since its inception; he acted as Advocate in connection with special applications made by his own company on a number of occasions. On his retirement, presentations were made to Mr. Minnis by the

directors and chief officers of the company, and by the headquarters and line staffs.

Mr. Harold Stanley Knott, M.A., B.Com., A.M.Inst.T., Deputy Traffic Manager, Great Northern Railway (Ireland), who, as recorded in our August 4 issue, has been appointed Traffic Manager of that company and Traffic Manager of the Belfast & County Down Railway, was educated privately and subsequently at Mountjoy College and Trinity College, Dublin. He graduated in 1930, when he received his B.A. and B.Com. degrees; and last month he received his M.A. degree. Mr. Knott entered the service of the London Midland & Scottish Railway as a



Mr. H. S. Knott [Dublin

Appointed Traffic Manager, Great Northern and
Belfast & County Down Railways

traffic apprentice in 1931; during the succeeding years he obtained experience in all departments of station working and was trained in traffic operating, locomotive running, and carriage and wagon departments, and in commercial work. His training also included service in district, divisional and headquarters offices. In 1935 he was appointed Passenger Rolling Stock Inspector, and during the next two years he held the position of Runner to the Divisional Superintendent of Operation, Manchester. He became Assistant District Controller, Leicester, in 1938, and in October of that year he was sent by the L.M.S.R. to the New York Central System in the U.S.A., to spend a year studying American railway conditions and the methods of operation of the latter company. After the "Coronation Scot" had been shipped to the U.S.A. early in 1939, Mr. Knott joined it on its arrival at Baltimore and toured the mid-western and eastern states with it before proceeding to the World's Fair, New York. He remained there with the train until the close of the Fair in October, and returned to England in December, 1939, when he resumed duty with the L.M.S.R. as Assistant District Controller, Leicester. On being released for Army service in July, 1940, Mr. Knott was commissioned in the Royal Engineers (Transportation). He served until October, 1942, when he was released specially by the War Office to take up his appointment as Deputy Traffic Manager, Great Northern Railway (Ireland).

TRANSPORT SERVICES AND THE WAR—256

L.N.E.R. Evacuee Traffic

At Marylebone Station the L.N.E.R. has entrained recently 53,565 mothers and children, involving the running of 74 special trains; on one day 9 such special trains were despatched. In addition, 57 special trains left other L.N.E.R. London stations, taking over 40,000 evacuees, all dealt with under the official scheme and apart from private and independent evacuations.

Transport Needs of Liberated Areas

The Combined Production & Resources Board, which co-ordinates the resources of the United States, Great Britain, and Canada for the prosecution of the war, announced in Washington on August 9 the formation of a transport equipment committee to survey the railway, port, and inland waterway needs in liberated areas during the relief period. The new committee will assemble all data that may be required to maintain or re-establish shipping services outside the United Kingdom and Canada. It will also be the committee's task to recommend methods for the supply and production of necessary materials and equipment. The Chairman of the committee and its American member is Brigadier-General Charles Young, Deputy-Director of the Office of Defense Transportation and Vice-President of the Pennsylvania Railroad. The member for Great Britain is General Sir Walter Venning, Director-General, British Ministry of Supply Mission in America; the member for Canada is Mr. R. A. C. Henry, formerly Deputy Minister of Railways & Canals.

Meat Transport Reviewed

A survey showing the part which the railways are playing in the transport of meat, issued by the Railway Executive Committee, shows that a scheme for the complete pooling of all rail and road insulated vehicles saved Britain's meat ration for 1941. To deal with imported meat traffic, the railways now have at their disposal 2,429 road-rail meat containers and 2,691 meat vans specially insulated for carrying refrigerated products at low temperatures. They are also making temporary use of 3,471 insulated banana vans for this traffic. The railways also control and supervise the working of 42 35-ton bogie refrigerator cars owned by the U.S. Army now in use in this country.

In 1940, shortage of insulated rail and road vehicles at the ports was affecting the turnaround of ships, and losses due to this cause were estimated at 200,000 tons a year. A national scheme which would increase the number of insulated vehicles at the ports, and provide, by co-ordination, greater flexibility in the use of rail and road units, was therefore devised. On December 1, 1940, small committees were set up at each port concerned, under the chairmanship of the Port Food Movement Officer, which meet daily to consider the tonnage of imported meat to be conveyed by rail and road respectively, according to the prevailing conditions, transport available, destinations, and tonnage. A standing central committee, known as the Central Meat Stock Distribution Committee, was established as a co-ordinating authority for the country as a whole, with power to make any adjustments considered necessary in the tonnage allocated to rail and road respectively by the Port Committees, after taking into consideration the circumstances at all the ports concerned, at inland cold stores, any cross haulage, and prospective commitments.

With the encouragement of the Ministry of Food a pool of insulated road vehicles had been formed at the beginning of the war under the aegis of the Wholesale Meat Transport Association, and, at the suggestion of the Ministry, the railways, as a preliminary to the general and more comprehensive scheme, decided that pooling of the whole of their insulated rail vans and containers and the establishment of a central authority for their control and distribution would bring immediate benefits. These arrangements were completed and brought into operation by the railways on November 1, 1940, only one month after they had been first mooted. The objects were to enable the combined insulated resources of the country to be concentrated at the required ports via the shortest routes to obtain greater utility by a more flexible control of both rail and road vehicles; and to effect a reduction in empty haulage. The very close working under the scheme between rail and road transport has reduced to negligible proportions delays to the refrigerated ships because of the shortage of insulated vehicles.

The 8,600 vehicles used for meat traffic are in constant use to deal with the meat imports and other frozen products from abroad, the greater portion of which the railways are called upon to carry from the ports. Last year, for example, of a total of more than a million tons of meat imported into this country, the railways carried 617,500 tons or 62 per cent. Since the outbreak of war there has been, in fact, a continual increase in the amount of meat carried by the railways from the ports. In 1941 the average weekly dispatch amounted to 9,332 tons; in 1942 this figure rose to 10,231 tons. A further increase was recorded in 1943 with a weekly average of 11,874 tons, and so far this year a new peak has been reached with an average dispatch of 12,776 tons a week. The last-named figure shows an increase over 1941 of 37 per cent.

Although the amount of meat imported fluctuates considerably from week to week, during a typical week some 25 special meat trains are worked from the ports, in addition to the regular services. In one particular week this year the railways carried no fewer than 25,641 tons from the ports and cold storage depots, a movement which involved the use of 4,643 insulated vehicles. A considerable proportion of imported meat is sent direct from the ports to cold storage depots for subsequent distribution by road to consuming places in the vicinity. In general, however, the railways carry the long-distance traffic from these stores. It is estimated that meat from the ports and cold stores is conveyed by rail over an average distance of 127 miles to nearly 700 different centres of population.

In addition to their stock of vehicles for the carriage of frozen meat, the railways are using 1,596 meat vans and 421 road-rail meat containers for carrying freshly killed meat. They also have in operation 14,038 cattle trucks for the conveyance of livestock. During the last few years the number of livestock forwarded has increased steadily. In 1941 an average of 6,145 trucks was being despatched every week; in 1942 this figure was increased to 6,311; and in 1943 it rose to 6,715, an increase (compared with 1941) of 9.3 per cent. October generally provides the heaviest loadings, when more than 12,000 wagons of livestock have been carried by the railways in a single week. Coincident with

the increase of livestock by rail, there has been a decrease in the tonnage of fresh meat conveyed. In 1941 the average number of vehicles despatched weekly with fresh meat was 432, with a maximum of 868. Last year the average was 217, with a maximum of 384. This decrease is due to the limitations imposed by zoning.

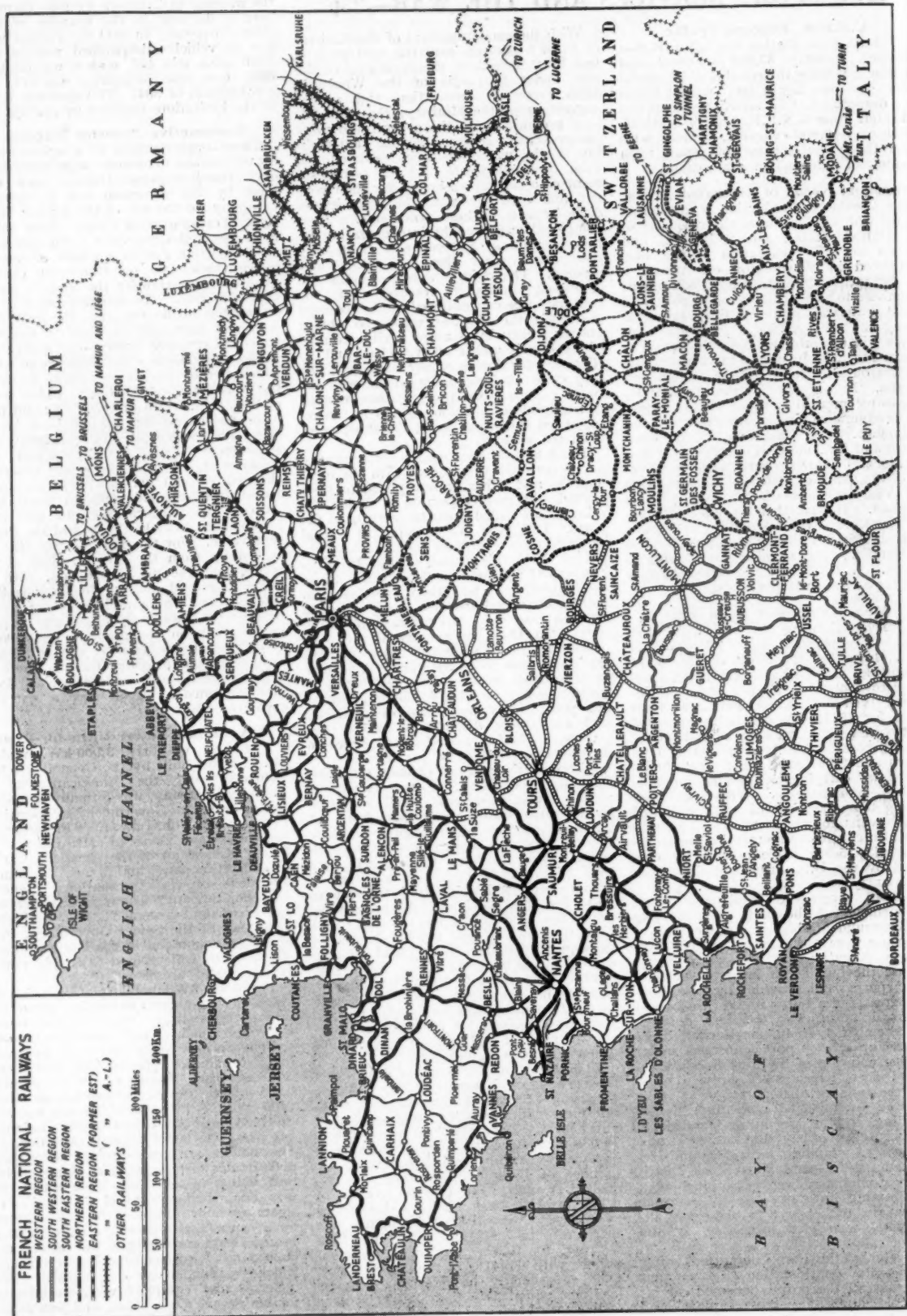
Locomotive Transfer Wagons

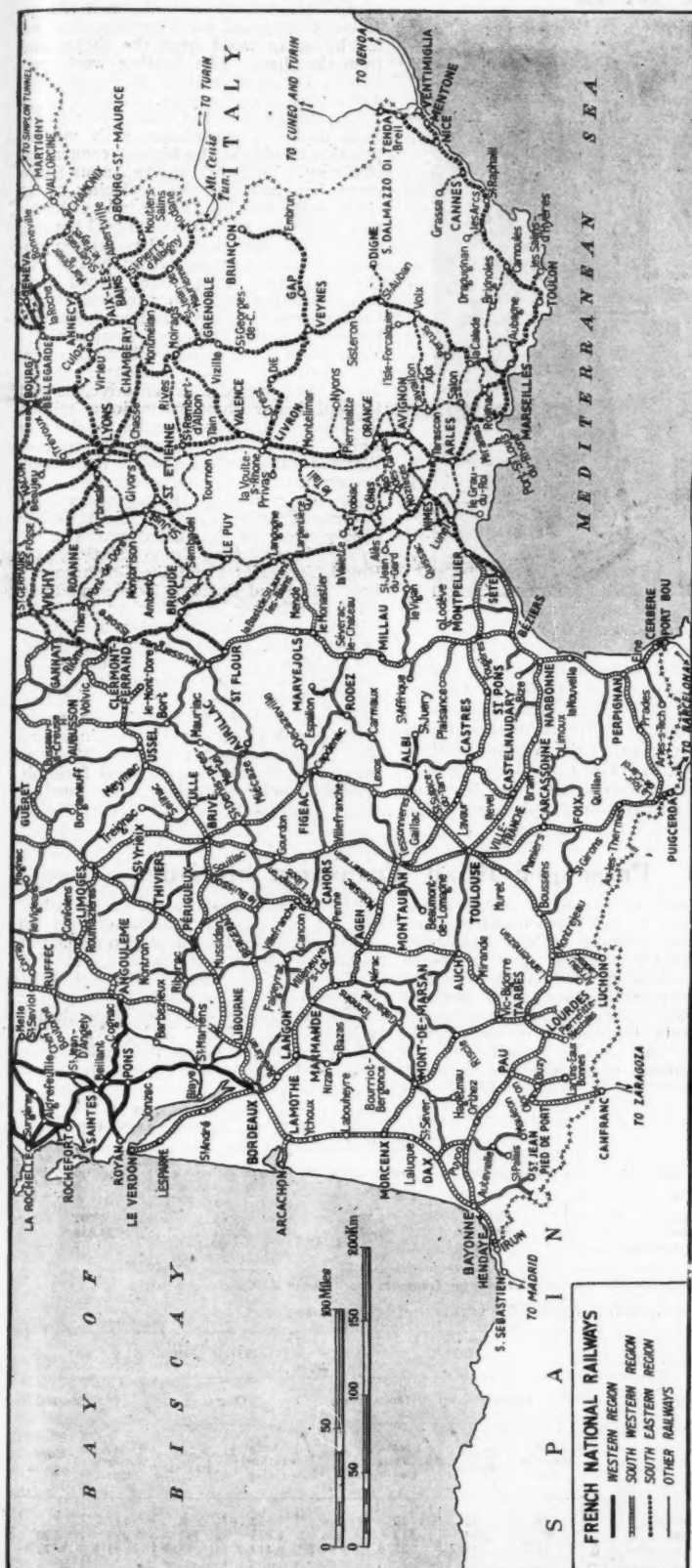
Three bogie wagons of a special type, for the carriage of narrow-gauge locomotives over standard-gauge tracks, have been built by the American Car & Foundry Company for the use of the United States Army Transportation Corps. Each wagon is of the well type, and in the depressed centre portion carries a length of narrow-gauge track, laid on transverse channel members that transfer the load to girder-type side sills. The centre portion of the wagon has no flooring, but the transverse members form an open floor structure which is strongly braced diagonally with angles and gussets. Rail-clips are provided which permit the narrow-gauge track on the wagon to be adjusted to either metre or 3 ft. 6 in. width at will. The end platform design transfers all end loads to the side sills, which are of fish-belly construction, with solid webs at the ends, and an open structure of posts and braces in the centre; all vertical loads are transferred from the side sills to the bogies. At one end platform the side sills have been spliced to make this end of the wagon removable. For this purpose, the sills are jacked up from the ground, clear of the splice, and the detachable end, with its bogie, is moved away; the body is then lowered, and, by suitable rail connections between the track on the wagon and narrow-gauge track on the ground, the narrow-gauge locomotive can be run off. This arrangement is provided for use where no lifting facilities are available. Each locomotive transfer wagon has a carrying capacity of 50 tons.

U.S.A. Mobile Power Units for Russia

The first of forty 3,000-kW. mobile power trains built by the General Electric Company and the American Car & Foundry Company, was formally delivered to the Russian Government at Berwick, Pennsylvania, on June 1. Presentation speeches were made by Mr. Charles J. Hardy, Chairman of the American Car & Foundry Company, and Mr. C. W. Minor, President of the International General Electric Company. The train was accepted by Lieutenant-General L. G. Rudenko, Chairman of the Soviet Government Purchasing Commission in the United States. These trains will be used to supply power in devastated areas.

The 3,000-kW. mobile plant consists of seven or eight cars, depending upon the method of cooling. There are two boiler cars and tenders, one turbine car, one switchgear car, three cooling tower cars (or two radiator-type cooling cars), and one crew car. Thirty of the plants will have cooling tower cars, and ten radiator-type coolers. The two boiler cars contain fire-tube locomotive-type boilers designed to operate at 300 lb. gauge, 600 deg. F. The boilers are coal-burning, employing poor grades of coal, such as lignite, with heat values of less than 7,000 B.T.U. per lb. Each boiler is rated 24,000 lb. of steam per hour. Induced draft is obtained by a centrifugal-type fan, driven from a geared steam turbine, and the turbine exhausts into a surface-type heater through which the condensate is pumped. The boiler is also equipped with an injector for emergency boiler feed, and automatic level feed control for normal operation. Adequate supplies of coal and make-up





The railways of France, showing the Regional Systems of the French National Railways

water are carried on the tender car, which is similar to that used for standard locomotives.

The turbine car contains a 3,000-kW., 0.8 power factor, 3,750-kVA., 3-phase turbine-generator arranged to deliver power at either 6,300 or 11,000 volts. The condenser is of the surface type. The switchgear car contains the main switchgear, which is of the metal-clad type, and houses the indicating and control apparatus for the main generator, together with three oil circuit breakers, one generator circuit, and two feeder circuits.

The three cooling tower cars for each of 30 of the power plants contain redwood cooling surfaces, arranged in two cells. The two radiator-type cars for each of the other ten power plants contain cooling equipment consisting of tubes and fins assembled in units. Water is circulated through the inside of the tubes and air over the outside of the tubes and fins. The crew car contains living and sleeping accommodation for the operators. A portion of the car is used as a maintenance room and test laboratory.

In addition to the 3,000-kW. units, 23 three-car 1,000-kW. mobile power plants are being supplied by the same makers. These trains consist of one boiler car, one turbine and switchgear car, and one cooling tower car.

We are indebted to the *Railway Age* for these details.

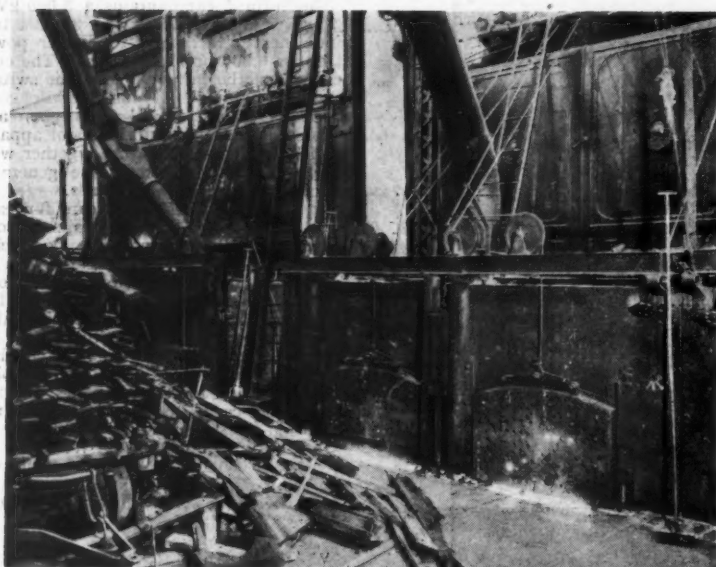
The Railway Situation in France

The magnificent successes which have attended the efforts of the Allied Forces in France have been closely associated with the railway situation. Both military and civilian traffic have been begun on lines in liberated areas, of which the first appears to have been a Cherbourg-Carentan service (using both steam and diesel traction) on August 4; large-scale Allied air attacks have disorganised enemy rail transport over an exceptionally wide area; further Partisan successes in Savoy blocked the Simplon Railway on August 4 and the Evian-les-Bains line on August 8, and in other ways assisted the preparations for the Allied landings between Cannes and Toulon on August 15; and subsequent Maquis risings in many parts of France closed first the Paris-Bordeaux line later on August 15, and afterwards severed many other main lines, as well as causing railway strikes on the Northern and Eastern Regional Systems. The day-to-day position is fluid, but the railways are a vital factor, and the accompanying maps may assist in interpreting the news.

Paris Metro Traffic

As a result of the reduction in the supply of electric power in Paris during the first half of this year, services on the Paris underground railway system have had to be curtailed progressively. During January of the present year, 118,600,000 passengers were carried, which was slightly above the figure for January, 1943, but the figures for the subsequent months have all been lower than those for the corresponding months of 1943. For example, in June last, the underground railway passengers totalled only 81,000,000, compared with 106,000,000 in June, 1943. It was understood that the Germans had arranged to use the Metro for the transport of men and material from one sector of Paris to another, as part of their defence arrangements, and last week it was reported that the system had been closed, presumably for this reason. It appears that the Germans refused to accept Paris as an open city. In the middle of July, Laval ordered the part-evacuation of Paris, and large parties of children left the capital.

Fuel Economy on the C.P.R.



The scrapwood furnaces at the Angus works

The Canadian Pacific Railway expects to save 500,000 tons of coal by means of far-reaching measures taken in response to the Canadian Government's declaration of a national fuel emergency. Detailed instructions have been issued, ranging from reminders about dressing more warmly to technical rules concerning the efficiency of heating units. It is estimated that in boiler plants alone the annual reduction in coal consumption has been 55,000 tons over the period from 1932 until this year; and it is expected that, as a result of the present campaign, a further 15,000 tons will be saved.

The main saving will be made in the operation of locomotives, and the heating of coaches in transit and in yards. These items will account for 87 per cent. of the company's coal consumption; the remaining 13 per cent. will be divided between hotels, stations and office and other buildings.

The instructions to staff have been issued in the form of a special booklet. Of the measures laid down, one of the most apparent will be the discontinuance of hot water for washing in offices (this will still be available, however, for shop and other staff). An order that coal must be moistened before being used is expected to bring results in locomotive operation. Train crews are asked to keep careful watch on outside temperatures, so that heat may be reduced whenever conditions warrant. In hotels, the use of coal in fireplaces is to be discontinued for the duration of the war; where fires in public rooms are maintained, wood will be used. The booklet contains in all more than 50 explicit "coal savers," as well as general information.

An important part is being played in the present campaign, although it really represents a section of the company's own long-term fuel-saving plan, by changes in large boiler plants such as those already effected at Angus Shops, Montreal, and now being carried out at the central heating plant of the Toronto terminals. A yearly saving of 10,000 tons accompanied the changes at the Angus Shops, and 6,000

tons will be saved during a similar period through the change at Toronto. Another example of the working of the company's own campaign is in the record of coal used at the power plant of the Windsor Station, Montreal. In 1916 this plant required 12,000 tons, which in 1942 had been cut to 7,000 tons although the plant was doing

more work. The remodelling of the larger plants included the installation at Angus Shops of improved wood-burning furnaces, fed by scrap wood from the shops, and from the line. The heating work performed by these units formerly required 5,000 tons of coal a year.

The changes in all of these boiler plants were made in accordance with modern practice to obtain the highest economical efficiency. The work at the Angus Shops plant has included the replacing of 12 chain grate 500 h.p. water-tube units by two 3,000 h.p. pulverised-coal-burning units. This installation has certain unusual features, among which is the fact that the two units were placed with furnaces facing each other to avoid structural changes to the building. Another feature was the fitting of comparatively large filters using wood wool as a medium to remove oil from condensed steam. These have proved most effective, and oil is kept below three parts in a million in boiled feed. The operation of the new units is fully under automatic control. Water to the boilers also is treated by automatic-proportioning feeders.

At the central heating plant at the Toronto terminals, where eight boilers supply steam to meet the demands of the two railways, the Union Station, the Royal York Hotel and the Government's Post Office and Customs House buildings, a 100,000 lb. per hr. pulverised-coal-burning unit is replacing two 30-year-old units of 500 h.p. of 45,000 lb. capacity.

To obtain maximum efficiency in smaller plants, where standard locomotive-type boilers are used, resort has been made, especially in western Canada, to the placing of boilers on raised settings, and the using of Turbine-type grates, to permit use of the cheapest local fuels obtainable, such as lignite or the smallest sizes of soft coal.

Passenger Road Transport Statistics

In response to a question in the House of Commons to the Parliamentary Secretary to the Ministry of War Transport, Mr. Noel-Baker recently gave a written answer containing the latest available information regarding the types of operators of passenger road transport services in Great Britain, the number of operators in each type, the vehicles owned, and the average number of vehicles per operator.

The details are shown in the tables below. He pointed out that the individuals and companies do not need statutory powers to operate buses or coaches, and that Section 101 of the Road Traffic Act, 1930, conferred certain additional powers on those local authorities which were already authorised to operate a tramway, light railway, trolleybus, or omnibus undertaking. Bus and motor coach figures are:—

Year	1931		1937 (excluding L.P.T.B.)*	
Type of operator	Local authorities	Other operators	Local authorities	Other operators
No. of operators	100	6,386	95	4,702
Vehicles owned	5,397	41,079	8,431	34,838
Vehicles per operator	54.0	6.4	88.7	7.4

* In 1937 the London Passenger Transport Board owned 6,305 buses and coaches

The corresponding figures for trams and trolleybuses are:—

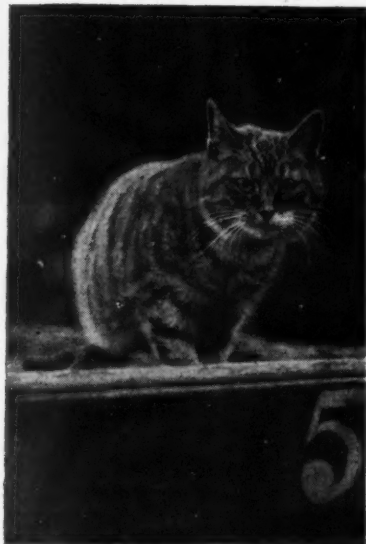
Year	1931-32				1937-38 (excluding L.P.T.B.)*			
Type of vehicle	Trams		Trolleybuses		Trams		Trolleybuses	
Type of operator	Local authorities	Companies	Local authorities	Companies	Local authorities	Companies	Local authorities	Companies
No. of operators	144	38	20	4	58	8	31	7
Vehicles owned	11,203	1,564	513	178	6,825	382	1,359	200
Vehicles per operator	77.7	41.2	25.6	44.5	117.7	47.7	43.8	28.6

* In 1937-38 the London Passenger Transport Board owned 1,668 trams and 1,026 trolleybuses
In 1938-39 the London Passenger Transport Board owned 1,316 trams and 1,411 trolleybuses

Official L.N.E.R. Cats

Large quantities of grain and feeding stuffs have always been stored in L.N.E.R. warehouses at various goods stations in Scotland, and it has always been considered important to keep down the numbers of vermin that habitually prey upon such vital stores. In 1940, however, at a time of extreme national emergency, it was felt that a more valuable contribution could be made to the task of conserving essential supplies by co-ordinating and intensifying the campaign in the warehouses against the rats and mice. It was decided, therefore, to "mobilise" the warehouse cats in the war effort, and an L.N.E.R. Cat Inspector for Scotland was appointed to supervise the work. Recently he gave a brief description of his activities, in the *L.N.E.R. Magazine*, and from this the following notes are extracted.

There have been railway cats in Scotland for so many years that the date of their original employment cannot be determined. For instance, there has been



"Tibby" of Leith Walk Goods Station, L.N.E.R.

an official cat at one station for more than 35 years. The status of the cats varied from place to place. At some stations their appointment could hardly be said to be official, though their presence was acknowledged. At others they were regarded as definite members of the staff. At one time there were also several joint cats at the joint stations, but later they were assigned to one company, or to the other under the closer working agreements.

When a register of cats had been compiled, and a number of appointments had been made, the subject of welfare was considered. Previously this had been haphazard, for some stations had been authorised to disburse a certain sum daily, while the co-operation of the staff alone helped to provide a varied diet at others. All cats were immediately placed on the payroll, and the stationmasters authorised to expend the money on their maintenance. In addition, the Ministry of Food made dried milk available.

Plans were worked out to improve the access of the cats to the various parts of the warehouse buildings by making suitable holes to ensure that the cats could

pass quickly from one point to another. Medicine is supplied for the cats, as necessary, and vacancies are filled as they occur. When the work was begun, there was a sharp rise in the number of vermin caught, and this was followed by a continuous downward trend, until a lower figure than any previously known was reached.

Staff and Labour Matters

Payment for Overtime—Trainmen

The Chairman of the Railway Staff National Tribunal has recently given his decision on a claim preferred by the National Union of Railwaymen that where a trainman has completed 48 hr. work in six turns in one week and is called on to work a seventh turn, such turn shall be governed by a guaranteed day, plus overtime rates for the actual hours worked. The issue between the parties is what are the payments proper to be made to a trainman for the time worked in the course of a seventh turn of duty in one week when during the previous six turns of duty he has completed 48 hr. work of which fewer than 48 are paid for at the ordinary rate of pay. Railway Executive Committee circular letter No. 1786 of April 3, 1919, provides as follows:

1. *Guaranteed day.*—(Guaranteed day to locomotive and trainmen, including drivers firemen, motormen, goods and passenger guards, and conductors and gatemen on electric trains). No man to be paid less than a standard day's pay for each time of signing on duty except, (a) men working a short turn for their own convenience, or illness; (b) men coming late on duty through their own fault to receive payment for the actual hours worked.

2. *Guaranteed Week.*—The following agreement has been reached: The standard week's work to consist of 48 hr., and the standard week's wages exclusive of any payment for overtime or Sunday duty to be guaranteed to all employees who are available for duty throughout the week.

3. *Overtime.*—It has been agreed that all time worked on weekdays in excess of the standard hours shall be paid for at the rate of time and a quarter, or if between the hours of 10 p.m. and 4 a.m. at the rate of time and a half. It has been agreed further that for the purpose of computing overtime each day shall stand by itself. In cases where arrangements are made to roster employees a week of 48 hr. in five long, and one short, turn, the wages shall be paid for the number of hours for each turn of duty as rostered, and overtime in all such cases shall be paid if an employee exceeds on any one day his rostered turn of duty. It is agreed that overtime rates shall not apply to any hours worked between midnight, Saturday, and midnight, Sunday, but that all time so worked shall be paid for at the Sunday rate, namely, time and a half. It is to be understood that all weekday time worked in excess of 48 hr. in any one week shall be paid for at the overtime rates.

Decision No. 155 of the National Wages Board of July 25, 1932, was as follows: The N.U.R. submitted to the National Wages Board a claim that trainmen required to work a seventh turn of duty should be paid at the overtime rate for the whole of the seventh turn. The Board found as follows:—

(a) Clause 3 of circular letter No. 1786 of April 3, 1919, makes provision that all weekday time worked in excess of 48 hr. in any one week shall be paid for at overtime rates.

(b) Clause 41 of the second memorandum on points of interpretation dated March 24, 1921, made an exception in the case of all conciliation grades, except drivers, firemen, motormen,

goods and passenger guards, and conductors and gatemen on electric trains, that the time for which such a man was available for duty, although not actually at work, should be credited for purposes of pay and calculation of time.

(c) No such exception has been made in the national agreements for the grades of drivers, firemen, motormen, goods and passenger guards, and conductors and gatemen on electric trains.

(d) The claim of the National Union of Railwaymen fails.

It is contended by the National Union of Railwaymen that if a trainman has completed 48 hr. work in six turns, irrespective of the condition that fewer than 48 hr. have been paid for at ordinary rate, all time worked in the course of the seventh turn should be paid for on the basis of overtime rates throughout; that this method of payment is supported by Clause 3 of the Railway Executive Committee circular letter No. 1786 and by Decision No. 155 of the National Wages Board; that a trainman who books on for an ordinary turn is available for, and is, in fact, paid for, 8 hr. work, although he may book off duty before the completion of 8 hr.; that he should receive credit for 8 hr. for the purpose of calculating 48 hr. work when six turns have been completed; that a man should not be penalised when, through no fault of his own, he has not been able to complete 8 hr. on a given day.

It is contended by the companies that Clause 3 of Railway Executive Committee circular letter No. 1786 and Decision No. 155 of the National Wages Board do not support the Union's claim; that under the existing basis of payment overtime rates, in fact, are paid for all time worked in excess of 48 hr. in a week; that the effect of conceding the Union's claim would be that in certain cases overtime rates would be payable for weekday time worked in excess of less than 48 hr. in a week; that a man is not penalised when, through no fault of his own, he has been unable to complete 8 hr. in a given day, because he is paid for 8 hr. although he has not worked 8 hr.; that the existing basis of payment, complies with all relevant agreements and decisions.

The Chairman finds against the claim.

Engineering Wages—Women and Girls

Agreement has been reached between the Engineering & Allied Employers' National Federation and the three trade unions catering for female workers in the engineering industry, namely, the Amalgamated Engineering Union, the Transport & General Workers' Union, and the National Union of General & Municipal Workers, under which the following increases in the national bonuses and the timeworkers' bonuses of women employed on women's work take effect, as from August 1, 1944:—

Age	National bonus		Timeworkers' bonus	
	s.	d.	s.	d.
21 and over	4	0	2	0
20	4	0	2	6
19	4	0	3	0
18	4	0	3	6
17	3	0	2	0
16	2	0	2	0
15	1	6	1	6
14	1	6	0	6

The agreement also provides for amounts ranging from 4s. at age 14 to 12s. at age 21 and over, to be transferred from the national bonus to basic rate, which results in the new schedule below:—

Age	Basic rate		National bonus		Time-workers' bonus		Inclusive rate (time-workers)	
	s.	d.	s.	d.	s.	d.	s.	d.
21 and over	37	0	14	0	5	0	56	0
20	35	0	14	0	5	0	54	0
19	33	0	14	0	5	0	52	0
18	31	0	14	0	5	0	50	0
17	22	8	10	0	3	0	35	8
16	20	4	7	0	3	0	30	4
15	15	8	5	6	2	6	23	8
14	14	0	4	6	1	6	20	0

Notes and News

Chief Engineer Required.—A large firm of locomotive manufacturers requires the services of a chief engineer. Details are given in our Official Notices on page 199.

Derailment at Wood Green.—Two passengers and the fireman are stated to have been slightly injured when the locomotive, tender and eleven coaches of the Kings Cross-Leeds train were derailed at Wood Green on August 21.

Canadian Pacific Railway Company.—The payment of a dividend on the ordinary capital stock was considered at a meeting of the directors held on August 14 in Montreal. In view of the onerous expense liability for the company foreshadowed in the National War Labour Board's recent award on railway wages both future and retroactive, and the final issue thereof being still unsettled, it was deemed advisable to defer any action in respect of a dividend.

Joint Traffic Arrangements in Ulster.—According to the *Belfast News Letter* the first results of the closer traffic working arrangements between the Belfast & County Down and the Great Northern Railways are expected in the reasonably near future. Local trains in the mornings may run between Bangor and the G.N. terminus at Great Victoria Street, reversing at Central Junction, using the same route for return in the evenings. The Queen's Quay terminus of the Belfast & County Down would not be used by these trains in either direction.

Fatal Derailment on S.R.—On the evening of August 16, a Southern Railway passenger train from Victoria to the Kent Coast line ran into an obstruction after traversing a curve beyond Rainham Station, between Chatham and Faversham, and became derailed. The driver had seen the obstruction and made an emergency brake application, but the locomotive was overturned, dragging the first two coaches with it, with serious results. Eight persons, including a ganger working on the line, were killed and 35 had to be detained in hospital. Among the fatalities were two sailors, a soldier and member of the A.T.S. The driver and fireman got clear of the engine and the latter, although injured, proceeded along the line to give warning and an up train was held at Newington. Prompt assistance was forthcoming in dealing with the casualties and doctors and nurses travelling in the train were able to render immediate first-aid.

Scottish Tourist Industry.—The committee proposed to be set up by the Scottish Council on Industry to investigate the whole question of the post-war tourist and holiday resources and facilities of Scotland, to which reference was made on page 102 of *The Railway Gazette* of August 4, has now been constituted. The Chairman is Dr. T. J. Honeyman, Director of the Glasgow Art Galleries, and among the additional 13 members are:—Sir Ian F. D. Bolton, Bt., a Director of the L.M.S.R.; Mr. R. Beveridge, Commercial Manager, S.M.T. Co. Ltd.; Mr. James Maxwell, Secretary & Assistant Manager, Thos. Cook & Son Ltd.; Mr. D. Robertson, Railway Clerks' Association; and Mr. R. E. Scouller, Workers' Travel Association. The terms of reference to the committee are—"to review tourist and holiday facilities in Scotland; to consider what measures are necessary to extend and improve such facilities and to promote the development of the tourist industry in Scotland, and, in

particular, what collective action by the various interests concerned is desirable, and to report."

Chief Draughtsman Required.—A large firm of locomotive manufacturers requires the services of a chief draughtsman. Details are given in our Official Notices on page 199.

Belgian 1943 Tram Results.—In a comprehensive survey of the development of the tram traffic in Belgium, it is stated that the total of civilian passengers carried in 1943 exceeded the 1938 figure by one per cent. This development is said to be particularly noteworthy since in 1942 the aggregate figure was 5 per cent. below the 1938 total. On the other hand, the volume of civilian goods conveyed by tram in 1943 dropped by 59 per cent., compared with the 1938 total, and was slightly below the 1942 total.

Richard Thomas & Co. Ltd.—Combined trading profits of this company and its controlled undertakings were £4,002,006 for the 52 weeks ended April 1, 1944, as compared with £3,720,980 for the preceding 53 weeks. Provision for taxation was £6,730,153 (£1,527,526), for depreciation was £926,500 (£899,500), and interest charges were £450,383. Net profit of the combined undertaking amounted to £741,168 (£633,881). For the parent company the trading profits were £3,434,153 (£3,257,887) and the net profit amounted to £740,123 (£362,439). The fixed preference dividend is unchanged and a sum of £100,000 (£113,522) is appropriated to reserve; the dividend on the ordinary shares is raised from 10 per cent. to 12½ per cent. The amount brought in was £374,781, and the carry forward is £466,989 after crediting £325,200 retrospective adjustments of tax.

The Technical Press.—The following letter, from Mr. C. E. Wallis, Managing Director, Associated Iliffe Press Limited, was published in *The Times* of August 18:—"The discussion on post-war exports in your City Notes of August 8 and the letters which it has since evoked are interesting from many points of view, but disturbing in the omission which is common to all of them of any reference to the technical and trade Press. Mr. Walker ends his letter by stressing the need for 'the goodwill and energy of manufacturers, the support of the Board of Trade, and the ground prepared by the skill and initiative of the advertising community.' Surely all of these are to some extent rendered nugatory if there is lacking the principal medium through which these factors can be exploited—a technical Press capable of standing comparison with that of any competitive country, both as regards content and presentation. This medium can be readily available. In the past the technical excellence of the British specialised Press was never in question, and that quality remains in spite of the restrictions under which it is at present functioning. If presentation fell sometimes short of the optimum, technical publishers are now fully prepared, as soon as circumstances permit, to ensure that their journals in the future can challenge comparison in format and appearance with those produced anywhere in the world. At present, however, they are gravely handicapped in respect of the quantity and quality of paper available, the adequacy of printing staff to enable the fullest use to be made of colour, and the curtailment of expert editorial staff to do full justice to the giant strides made by British industry during the war. Austerity journals, like utility dresses, are unsuitable

for export. Let the Government, the manufacturers, and the advertising community of this country once realise, as those of other countries did before the war, the potentialities of the weapon offered to them by the technical and trade Press: let them take publishers fully into their deliberations; let the necessary facilities for first-class production be granted now, and not postponed until the battle is on, and the technical and trade Press will be fully

British and Irish Railway Stocks and Shares

Stocks	Highest 1943	Lowest 1943	Prices	
			August 22, 1944	Rise/ Fall
G.W.R.				
Cons. Ord. ...	65½	57½	57½	—
5% Con. Pref. ...	120½	108	117	—
5% Red. Pref. (1950) ...	110½	106	105	—
5% R. Charge ...	137½	123	131	—
5% Cons. Guar. ...	135½	121½	129	—
4% Deb. ...	118	107½	114½	—
4½% Deb. ...	119	109½	115½	—
4½% Deb. ...	124½	116	120½	—
5% Deb. ...	138	127	134	—
2½% Deb. ...	77	72½	74½	—
L.M.S.R.				
Ord. ...	34½	28	30	—
4% Pref. (1923) ...	64½	58	58	—
4% Pref. ...	80½	73	75½	—
5% Red. Pref. (1955) ...	105½	102	103	—
4% Guar. ...	107	98½	100	—
4% Deb. ...	109½	103½	105	—
5% Red. Deb. (1952) ...	111½	108	109½	—
L.N.E.R.				
5% Pref. Ord. ...	12½	7½	8½	—
Def. Ord. ...	58	34	4½	—
4% First Pref. ...	66½	57½	57	—
4% Second Pref. ...	36½	30½	30½	—
5% Red. Pref. (1955) ...	99½	93	99½	—
4% First Guar. ...	102½	94	98	—
4% Second Guar. ...	93	85½	90	—
3% Deb. ...	86½	78½	82	—
4% Deb. ...	109½	101½	104½	—
5% Red. Deb. (1947) ...	106½	102	103	—
4½% Sinking Fund Red. Deb. ...	108	103½	105½	—
SOUTHERN				
Pref. Ord. ...	80	72½	75	—
Def. Ord. ...	26½	20½	24	—
5% Pref. ...	119½	106½	116	—
5% Red. Pref. (1964) ...	114	108½	113½	—
5% Guar. Pref. ...	136	122	130½	—
5% Red. Guar. Pref. (1957) ...	117	109½	113½	—
4% Deb. ...	117½	106	112½	—
5% Deb. ...	137	126	133½	—
4% Red. Deb. (1962- 67) ...	112	106½	109½	—
4% Red. Deb. (1970- 80) ...	112	107	109½	—
FORTH BRIDGE				
4% Deb. ...	109	104½	104	—
4% Guar. ...	105	102½	102½	—
L.P.T.B.				
4½% "A" ...	125½	114	121½	—
5% "A" ...	133½	123	130½	—
3% Guar. (1967-72) ...	100½	97	97	—
5% "B" ...	124	114	121	—
5% "C" ...	72	53	71	—
MERSEY				
Ord. ...	34½	27	35	—
3% Perp. Pref. ...	69	59½	69	—
4% Perp. Deb. ...	104	102½	103	—
3% Perp. Deb. ...	83	78½	80	—
IRELAND* BELFAST & C.D.				
Ord. ...	9	6	9½	—
G. NORTHERN				
Ord. ...	24½	16	26½	—
Pref. ...	—	—	43	—
Guar. ...	—	—	66	—
Deb. ...	—	—	86	—
G. SOUTHERN				
Ord. ...	30	9½	55½	—
Pref. ...	30	11	56½	—
Guar. ...	64	26½	72	—
Deb. ...	88½	51½	94	—

* Latest available quotations

OFFICIAL NOTICES

CHIEF ENGINEER required by large firm of locomotive manufacturers. A man with the highest technical qualifications, together with experience of locomotive design and modern methods of production, is required. Age about 35-45. The position will carry considerable responsibility. Salary from £1,200 p.a., according to qualifications and experience. Applicants should write, quoting C.2243XA, to the Ministry of Labour and National Service, Room 432, Alexandra House, Kingsway, London, W.C.2, for the necessary forms, which should be returned completed on or before 11th September, 1944.

CHIEF DRAUGHTSMAN required by large firm of Locomotive Manufacturers. Previous experience in locomotive design essential, although consideration will be given to applicants who have recently had experience in another industry. Age about 35/45. Applicants should give particulars of their career. Address "1881" Wm. Porteous & Co., Glasgow.

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

competent to carry the fight for British export trade into every country of the world.—Yours, etc."

(See editorial note, page 177)

South African Railway Earnings.—Railway earnings in South Africa for the period July 9 to August 5 amounted to £3,635,374 compared with £3,522,247 in the corresponding period of last year.

More Pupils at Ankara Railway School.—The intensification of railway traffic in Turkey has necessitated augmenting the total of railwaymen and station clerks. It is intended, therefore, to open additional courses at the Ankara railway school, to enable 360 pupils to attend, instead of 240 as heretofore.

Privately-Owned Wagons.—Below is an extract from the City Notes in *The Daily Telegraph* of July 31:—

"Among the numerous problems which surround the post-war operation of the railways the future ownership, operation and finance of the country's wagons are now being discussed between the railway companies and the private owners. When war broke out there were in this country 664,000 wagons owned by the railways and 604,000 owned by private interests, such as collieries, coal merchants and wagon-hiring firms. At pre-war prices the capital value of this combined stock probably exceeded £100,000,000.

"Although the railway-owned wagons were in separate ownership amongst the different companies they were largely operated as one stock under a common user arrangement. The privately-owned wagons, on the other hand, were operated separately and involved the railways in a great deal of empty wagon haulage.

"In September, 1939, the Minister of War Transport requisitioned all privately-owned wagons other than those in a few selected classes and made them available to the railways. This has enabled them to be used in common with the railway-owned stock under a wagon control organisation set up by the railways. The result has been a large saving in empty wagon haulage.

"How substantial these economies have been may be judged from the fact that in 1943, although the total loaded wagon mileage rose by 31 per cent. compared with pre-war, the total empty wagon mileage fell by 8½ per cent. This has made possible a more intensive user of the wagon stock, enabled a large number of full train loads of coal to be run from one colliery to one destination or central point in a district, and given a greater control of movement and supply of wagons to collieries. In short, the general pooling scheme has been of tremendous advantage throughout the war period.

"On the financial side the wagon-hiring concerns have received a reasonably generous return which has at least enabled them to maintain their dividends. Whether the solution to the post-war problem will be one of outright purchase of these privately-owned wagons by the railways or a continuation of some renting arrangement has not

yet been decided. It does seem clear, however, that through one method or another the advantages of pooling will be retained."

(See Letter to Editor, page 183, and editorial article, page 181)

Aldershot & District Traction Co. Ltd.—This company is controlled jointly by the Southern Railway Company and by B.E.T. Omnibus Services Limited. It owns and operates 250 motor omnibuses over a route mileage of approximately 500 miles. For the year ended May 31, 1944, traffic receipts and other revenue amounted to £765,445 (£708,754). After deducting all items chargeable against revenue, including provision for taxation and depreciation, and transferring £10,000 (same) to general reserve, there remained a profit of £13,277 (£20,008), to which has to be added £39,174 brought forward, making £52,451. The dividend for the year is 10 per cent., less tax, and the amount carried forward is £39,951.

No Double Compensation.—A claim by a Selby employee of the Olympia Oil & Cake Mills against the L.N.E.R. for damages in respect of injuries was heard recently by Mr. Justice Cassels at York Assizes. Plaintiff was engaged concreting alongside the railway at the mills when he was struck by two coal wagons which were being shunted. One of his feet had to be amputated. Evidence was called by the railway company to show that plaintiff had been warned to move out of the way, and it was submitted that he had shown contributory negligence. It appeared also that plaintiff had accepted payments in respect of the accident from his employers. The judge held that adequate warning was given and that there was no negligence in the

part of the railway company. His Lordship was satisfied that plaintiff knew that the money received from his employers was compensation under the Workmen's Compensation Act. Judgment was given for the railway company, with costs.

Wagon Repairs Limited.—After deduction of depreciation and other charges, and making provision for taxation, the profit for the year ended March 31, 1944, amounted to £39,759 (£39,165), and £27,425 was brought in, making £67,184. Dividend for the year on the ordinary capital is 10 per cent., less tax (same), and £28,233 is carried forward.

Cordoba Central Trust Limited.—Formal notice has been received that the Argentine Government will redeem on November 1 next the balance of the State Railways 4 per cent. sterling bonds held by the trust. To enable the 3½ per cent. first debenture stock of the company to be redeemed as soon as possible after the money is received, it will be necessary to hold meetings of both the first and the "B" debenture stockholders, to sanction certain alterations in the trust deeds securing the respective stocks.

A.B.C. Coupler & Engineering Co. Ltd.—In the report for the year to September 30, 1943, it is stated that the net profit, after the usual depreciation of buildings and plant had been written off, and after making provision for taxation and contingencies, was £6,775 (£6,590), and £1,598 was brought in, making £8,373. A transfer is made to general reserve of £4,000 (same), and the dividend on the ordinary shares for the year is 12½ per cent., less tax, against 10 per cent., less tax, for the previous year. The carry forward is £1,799.

Queueing Outside Paddington Station



The scene outside Paddington Station G.W.R., on Saturday last, when large queues were formed away from the circulating area and platforms

Railway Stock Market

Apart from continued firmness in British funds and speculative activity in European bonds, the tendency of stock markets has been reactionary, more particularly in the industrial section, where prices lost a further small part of the big gains shown since the beginning of the year. The rapid progress of the war has had the effect of further centring market attention on the uncertainties of post-war industrial problems, with the result that demand has fallen off, although the view prevails that many industrial companies will have prospects of improved dividends when E.P.T. is abolished or substantially reduced. With the difficulty of assessing post-war prospects governing market sentiment, home railway junior stocks have continued to move back, although, as in most other sections of markets, there appeared to be only a moderate amount of selling. On the other hand, home railway prior charges were quite well maintained; their high-class investment merits were, of course, generally recognised.

It cannot be emphasised too often that the railway control agreement is to run until at least one year after the war, and that dividends on the junior stocks reasonably can be expected to continue at around current levels until the agreement expires. Meanwhile, however, it is difficult to assess the outlook in the absence of any comprehensive statement from the Government as to its attitude to post-war transport organisation and control. Nevertheless, there is still no reason why

home railway junior stocks should be valued on a basis showing very much higher yields than the average on industrial shares, particularly bearing in mind that many other leading industries besides the railways also have a difficult and uncertain period to face after the war; although for the time being at any rate, the dividend payments on home railway junior stocks can be closely estimated. It is perhaps because the dividend position under the control agreement can be so clearly assessed that home railway stocks, unlike some industrial shares, have not attracted any large measure of speculative support. The main feature of railway markets has been the further rise in French railway sterling bonds, reflecting the excellent progress of the Allies in France, although it is recognised that, in any case, some considerable time must elapse before payments can be resumed on these bonds.

On the other hand, Argentine railway stocks have reacted again, because of continued uncertainty as to the attitude of the Argentine authorities, but declines on balance were mostly moderate; as in many other sections of the Stock Exchange, the volume of business was small and in some cases probably barely sufficient to test quotations. Canadian Pacifics were lower on balance, still under the influence of disappointment with the decision not to resume payment of an interim dividend because of the wages award, and also reflecting fears

that the expense of the latter may be such as to preclude the possibility of an improved dividend for the current year.

Compared with a week ago, Great Western ordinary has reacted from 58½ to 57½, and the 5 per cent. preference stock was slightly lower at 117. L.M.S.R. ordinary eased from 30½ to 30, and the senior preference was 75½, and the 1923 preference 58½. L.N.E.R. preferred was 8½, and the second preference moved fractionally lower at 31. Southern deferred eased from 24½ to 24 and the preferred from 75½ to 75½, with the 5 per cent. preference 116. London Transport "C" was 70½, compared with 71, and continues to be valued on a considerably smaller yield basis than junior stocks of the main-line railways, reflecting the view that higher dividends should be in prospect on the "C" stock in due course after the war.

Among Argentine rails, B.A. Gt. Southern was 11, and the 4 per cent. debentures 55½. B.A. & Pacific 4 per cent. first debentures kept at 68½, but the 4½ per cent. debentures moved back from 53 to 51½. Antofagasta ordinary eased to 10. San Paulo was again 48. United of Havana debentures eased to 27½. In French rails, Nord rose further from 80½ to 81½, and Midi from 70½ to 72½. Canadian Pacifics were 15½, compared with 16½ a week ago. In Indian rail stocks, Bengal-Nagpur guaranteed was a point higher at 120.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ending	Traffic for week		No. of Weeks	Aggregate traffic to date			Shares or stock	Prices				
			Total this year	Inc. or dec. compared with 1942/3		Totals		Increase or decrease		Highest 1943	Lowest 1943	August 22, 1944	Yield % (See Notes)	
						1943/4	1942/3							
South & Central America														
Antofagasta (Chili) & Bolivia	834	13.8.44	28,370	—	32	£ 941,690	£ 905,400	+	£ 36,290	Ord. Stk.	15½	10	10	Nil
Argentine North Eastern	753	12.8.44	16,836	+	6	99,498	89,124	+	10,374	Ord. Stk.	7½	5	5½	Nil
Bolivar	174	July, 1944	4,907	—	30	36,663	37,405	—	742	6 p.c. Deb.	22½	18	17½	Nil
Brazil	—	—	—	—	—	—	—	—	—	Bonds	23½	19	19	Nil
Buenos Ayres & Pacific	2,807	12.8.44	114,720	+	6	675,660	510,000	+	165,660	Ord. Stk.	8½	5½	5	Nil
Buenos Ayres Great Southern	5,080	12.8.44	166,500	+	6	1,021,080	866,760	+	154,320	Ord. Stk.	17½	9½	11	Nil
Buenos Ayres Western	1,930	12.8.44	60,900	+	6	369,540	294,420	+	75,120	Ord. Stk.	16	9½	10	Nil
Central Argentine	3,700	12.8.44	169,002	+	6	1,034,622	769,440	+	265,182	Ord. Stk.	10½	6½	8	Nil
Do.	—	—	—	—	—	—	—	—	—	Divd.	4	3	3½	Nil
Cent. Uruguay of M. Video	972	12.8.44	26,254	—	6	202,107	193,564	+	8,543	Ord. Stk.	7½	4½	4½	Nil
Costa Rica	262	Mar., 1944	26,525	+	48	25,679	173,827	+	7,852	Stk.	16	12½	15	Nil
Dorada	70	July, 1944	28,381	+	30	177,690	146,917	+	30,773	1 Mt. Db.	96	92	96	6½
Entre Rios	808	12.8.44	24,110	+	6	139,980	122,862	+	17,118	Ord. Stk.	9	5½	5	Nil
Great Western of Brazil	1,030	12.8.44	20,100	+	32	692,800	499,000	+	193,800	Ord. Sh.	59/9	24/4½	27/7½	Nil
International of Cl. Amer.	794	June, 1944	\$528,673	—	26	\$4,200,514	\$3,904,639	+	\$295,875	1st Pref.	—	2½	1	Nil
Interoceanic of Mexico	—	July, 1944	8,510	+	31	54,940	61,140	—	6,200	5 p.c. Deb.	90	80	79	6½
La Guaira & Caracas	22½	12.8.44	49,052	+	32	1,457,149	1,089,361	+	367,788	Ord. Stk.	7½	4	5	Nil
Leopoldina	1,918	7.8.44	ps. 436,900	ps. 95,200	5	ps. 2,601,300	ps. 2,190,900	+	ps. 410,400	Ord. Stk.	1½	4	5	Nil
Mexican	483	June, 1944	15,425	+	21	203,234	184,947	+	18,287	Ord. Sh.	83/9	71/3	72/—	£3 9/8
Midland Uruguay	319	15.8.44	8,613	—	33	119,248	92,250	+	25,998	Pr. Li. Stk.	75	51½	71	Nil
Nitrate	382	11.8.44	\$48,414	—	6	\$333,698	\$284,360	+	\$49,338	Pref.	17½	10½	10	Nil
Paraguay Central	274	Apr., 1944	118,640	+	43	c 1,310,000	c 1,034,000	+	c 276,000	Ord. Stk.	71	57	48	£4 3/4
Peruvian Corporation	1,059	—	c 152,000	c 30,000	4	—	—	—	—	Ord. Sh.	37/6	20/-	16/-	3 Nil
Salvador	100	—	1,815	—	4	1,815	3,515	—	1,700	Ord. Stk.	8½	3½	3	—
San Paulo	153½	—	50,479	—	1,141	287,691	326,254	—	38,563	—	—	—	—	—
Taitai	160	July, 1944	1,477	+	36	17,889	17,259	+	630	—	—	—	—	—
United of Havana	1,301	12.8.44	—	—	—	—	—	—	—	—	—	—	—	—
Uruguay Northern	73	June, 1944	—	—	—	—	—	—	—	—	—	—	—	—
Canada														
Canadian Pacific	17,034	14.8.44	1,212,400	+	32	38,773,000	34,891,600	+	3,881,400	Ord. Stk.	18	13½	15	3½
India														
Barsi Light	202	July, 1944	24,878	—	17	100,365	91,770	+	8,595	Ord. Stk.	104½	101½	120	£3 6/8
Bengal-Nagpur	3,267	June, 1944	978,150	—	13	3,211,725	3,228,900	—	17,175	—	—	—	—	—
Madras & Southern Mahratta	2,939	Mar., 1944	358,125	—	52	10,447,866	8,913,942	+	1,533,924	—	—	—	—	—
South Indian	2,349	20.12.43	199,410	+	37	5,321,558	4,562,445	+	759,113	—	—	—	—	—
Various														
Egyptian Delta	607	10.7.44	18,735	+	14	186,144	138,516	+	47,628	Prf. Sh.	6½	2½	4	Nil
Manila	—	—	—	—	—	—	—	—	—	B. Deb.	45	32	48	Nil
Midland of W. Australia	277	J. ne, 1944	19,914	—	52	332,900	392,863	—	59,963	Inc. Deb.	101	93	100½	£4 19/8
Nigerian	1,900	27.5.44	254,099	—	12	—	—	—	—	—	—	—	—	—
South Africa	13,291	15.7.44	911,388	+	15	13,072,996	12,431,530	+	641,466	—	—	—	—	—
Victoria	4,774	April, 1944	1,188,999	—	212,162	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ¼. Argentine traffic is given in sterling calculated @ 16½ pesos to the £.
† Receipts are calculated @ 1s. 6d. to the rupee